VICTORIA CROSS
INTEGRATED STATION DEVELOPMENT

CONSTRUCTION AND SITE MANAGEMENT PLAN

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Originator(s)	Annelise Cannon	Construction Manager	12/4/22	
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01	10/05/19	Issued for Internal Review	All	Yes
02	23/05/19	Submitted to Sydney Metro as DRAFT	All	Yes
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05	28/11/19	Re-Submission to Sydney Metro as FINAL (Revised)	All	Yes
06	12/4/22	Updated for OSD commencment	All	Yes

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1. GENERAL INFORMATION

1.1 Compliance Table

This project plan is compliant to the requirements of the Scope of Works and Technical Criteria (SWTC) Schedule C1 Appendix F2, as well as the requirements of the VCISD Over Station Development Project Delivery Agreement (PDA) Section 3.4 of Schedule A13 – Project Plan Requirements.

Appendix F2 – Project Plan Requirements

Reference	Reference	Plan Section
Appendix F2	Each Project Plan must contain, as a minimum, the contents specified in the relevant sections of this Appendix F2.	Throughout this plan.
Appendix F2 2.7 (a)	The Construction and Site Management Plan must describe the procedures and processes that Lend Lease will undertake to plan and execute the Project Works and Temporary Works	Throughout this plan.
Appendix F2 2.7 (a) (i)	The Construction and Site Management Plan must detail how Lend Lease will comply with its obligations under the deed in relation to the control, establishment, security, use and rehabilitation of the Project Site including the arrangements to provide access to, within and through the Project Site for the Principal's Representative personnel, Rail Contractors personnel and any other person nominated by the Principal's Representative	Throughout this plan.
Appendix F2 2.7 (a) (ii)	The Construction and Site Management Plan must determine effective construction staging that will ensure that Station and rail operations and the associated transport facilities' operational requirements are maintained and the impact to these operations is minimised and managed accordingly during construction of the Project Works and Temporary Works	Throughout this plan.
Appendix F2 2.7 (a) (iii)	The Construction and Site Management Plan must describe the processes to ensure the compatibility of any necessary Temporary Works with each other and with the Project Works	Throughout this plan.
Appendix F2 2.7 (a) (iv)	The Construction and Site Management Plan must describe procedures for project mobilisation and demobilisation to carry out construction activities, including mobilisation and demobilisation of personnel, construction plant and equipment	Throughout this plan.
Appendix F2 2.7 (a) (vi)	The Construction and Site Management Plan must address the management of interfaces with all Authorities, Interface Contractors and other Stakeholders	Throughout this plan.

Appendix F2 – Project Plan Requirements		
Reference	**Reference**	**Plan Section**
Appendix F2 2.7 (a) (vii)	The Construction and Site Management Plan must describe how the Contractor will address the relevant site security requirements	Throughout this plan.
Appendix F2 2.7 (a) (viii)	The Construction and Site Management Plan must describe competencies, licensing, learning and development activities relevant to implementing the Project Works and Temporary Work	Throughout this plan
Schedule A13 – Project Plan Requirements		
Section 3.4	Construction and Site Management Plan must describe the procedures and processes that the Contractor will undertake to plan and execute the WUC, and must:	Throughout this plan
	detail how the Contractor will comply with its obligations under this Contract in relation to the control, establishment, security, use and rehabilitation of the Site;	Throughout this plan
	determine effective construction staging that will ensure that Victoria Cross Station and rail operations and the associated transport facilities' operational requirements are maintained and any impact to these operations is minimised and managed accordingly during construction of the Works; and	Throughout this plan
	address the management of interfaces with all Authorities, Interface Contractors and other stakeholders Including: (A) work implications and applicable construction methodologies; and (B) outline an incident reporting procedure and crisis management procedures with reference to the Contract.	Throughout this plan
	the Contractor must, in the Construction and Site Management Plan specifically identify any Identified Metro Impacts which it considers may or are likely to arise, during the construction period, from the carrying out of the WUC;	Where applicable/Section 20
	the Contractor must, in the Construction and Site Management Plan, address how the Contractor proposes to address those Identified Metro Impacts;	Where applicable/Section 20

Appendix F2 – Project Plan Requirements		
Reference	**Reference**	**Plan Section**
	Metro Impact means, in respect of the OSD or the carrying out of the OSD Works (whether on their own or combined with the Station Project Works), anything which will result in the Station Project Works, any part of the Station Project Works or the carrying out of the Station Project Works (whether on their own or combined with the OSD or the carrying out of the OSD Works), being unable to comply with the requirements set out in Schedule A25 (Metro Impact), but excludes any Pre-Agreed Metro Impact.	Where applicable/Section 20

1.2 Acronyms

Acronym	Definition
AEO	Authorised Engineering Organisation
ASA	Asset Standards Authority
CSMP	Construction and Site Management Plan
CSSI	Critically Significant State Infrastructure
CTMP	Construction Traffic Management Plan
ISD	Integrated Station Development
VICX-ISD	Victoria Cross Integrated Station Development
OSD	Over Station Development
TCG	Traffic Control Group
TfNSW	Transport for New South Wales
TSE	Tunnel and Station Excavation Works
LiDAR	Light Detection and Ranging
STME	Stations Mechanical and Electrical Works

Acronym	Definition
CBD	Central Business District
RL	Reduced Level
IRS's	Interface Requirement Specifications
BOH	Back of House
FOH	Front of House
SWTC	Scope of Works and Technical Criteria
TW	Temporary Works
PDA	VCISD Over Station Development Project Delivery Agreement

1.3 Definitions and Abbreviations

Glossary of commonly used terms and acronyms

Term	Description
AEO	Authorised Engineering Organisation - a supplier of a defined engineering service or product that has been assessed and granted pre-approval to undertake work on TfNSW infrastructure.
Principal Contractor	Lend Lease
PHA	Preliminary Hazard Analysis - is performed to identify possible hazards that could be created by the system being designed. This information can then be used to reduce the severity or build-in safeguards against the effects of the identified hazards.
Principal	Sydney Metro – Station Lendlease (Victoria Cross) Pty Limited - OSD
WH&S	Work Health and Safety - Work health and safety refers to the legislation, policies, procedures and activities that aim to protect the health, safety and welfare of all people at the workplace.

1.4 References and Standards

Document	Reference Title
Schedule C1	Scope of Works and Technical Criteria Appendix F2

2 PROJECT INTRODUCTION

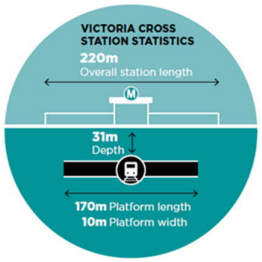
Situated at the corner of Miller and Berry Streets, the new Victoria Cross Integrated Station Development (VC ISD) represents a unique opportunity to create a new precinct in the heart of North Sydney that has seamless access to retail, commercial offices and transport infrastructure.

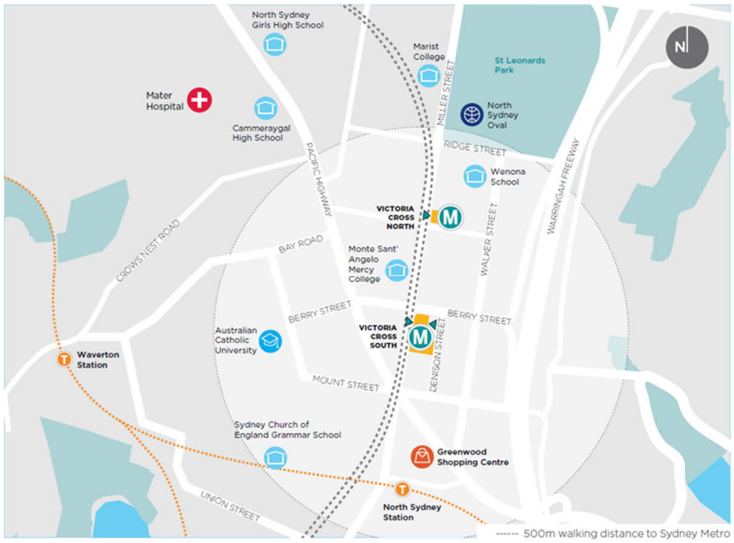
The new station supports the continued growth of North Sydney, adding to the vibrancy of the area through new employment and retail opportunities, improved pedestrian connections and high quality outdoor spaces.

The concept proposal for Victoria Cross is a 40-storey commercial building above the station's southern entrance integrating retail opportunities and enhancing North Sydney as a thriving commercial, residential, retail and entertainment hub.

The over station development (OSD) and retail opportunity has the following potential features:

(a) commercial office and retail uses;
(b) maximum building height of 230 metres;
(c) maximum gross floor area of approximately 60,000m2 for the OSD; and
(d) up to 4,500m2 of station retail.





The Construction and Site Management Plan (CSMP) considers the station works approved under the Critical State Significant Infrastructure (CSSI) and the integrated development strategy (which is part of a State Significant Development Application (SSDA), focusing on the requirements of Sydney Metro and Lendlease Development for the unique integrated station and tower design and delivery solution on site.

3 DOCUMENT PURPOSE AND OBJECTIVES

The purpose of this document is to describe the procedures and processes that Lendlease will undertake to plan and execute the Project Works and Temporary Works for the Victoria Cross Station Integrated Station Development (VICX-ISD).

This plan has been developed to demonstrate compliance with Schedule C1 Scope of Works, the Technical Criteria Appendix F2 – Project Administration, and OSD PDA – Project Plan Requirements.

4 SCOPE AND APPLICATION

The VICX-ISD works are to be undertaken by Lend Lease as part of the Critical State Significant Infrastructure project approval, and will be completed in a single construction phase upon handout of the workplace by TSE via Metro.

The Project Works include all permanent new infrastructure to enable the Victoria Cross Integrated Station Development (VC ISD) Contractor to satisfy the requirements of the Contract.

The Project Works include the following categories of works:

- Metro Station Works; and
- Over Station Development Works.

The new Victoria Cross Station will be a cavern station located in North Sydney beneath Miller Street between Berry and McLaren Streets.

TSE have been engaged by Sydney Metro to construct the tunnels. Platform cavern, adits and station boxes, which will be handed over to the Contractor in early 2021.

The station will have two entrances:

a. The southern entrance bound by Miller, Berry and Denison Streets; and

b. The northern entrance on the corner of Miller and McLaren Streets.

Under the contract scope of works Lend Lease will be required to interface with two other contractors who will be completing works within the station area. The Line Wide (LW) Contractor, who will be installing the bulk power system, traction power and tunnel ventilation, and the (TSOM) Contractor, who will be installing the communication equipment, controls and platform screen doors.

Sydney Metro have engaged a contractor to complete the tunnelling construction and station excavation for the Sydney Metro City & Southwest. This includes the excavation of the northern shaft, southern shaft, platform cavern and adits for the Victoria Cross Station.

On handover:

- The northern shaft and southern shaft will be temporarily supported and will be undrained; and
- The caverns and adits will be fully lined and permanently supported.

Under the Station Delivery Deed (SDD) the VC ISD will be required to complete:

Station Works:

- detailed excavation and associated drilling required for sumps, on-site detention tanks and foundations to support the structural works;
- all structural works for the station entrances, concourses, and island platform;
- track invert slab including underline crossings, earthing mats and drainage;
- plant and equipment rooms including fitout;
- public and staff toilets;
- architectural fitout of the station;
- electrical, fire, hydraulic, mechanical systems;
- building management control system;
- provisions for works by Interface Contractors;
- provisions for advertising, ATMs and vending machines;
- the civil and structural works for the tunnel ventilation system;
- lifts and escalators;
- signage, wayfinding and tactile indicators;
- external façade and awnings up to and including the Transfer Level;
- landscaping, public plaza and precinct activation works including the street scaping and furniture for the public domain;
- bicycle parking facilities;
- public art; and
- vehicle ramp, loading dock and waste collection facility for the station area.

Retail Works suitable for fitout by others, including:

- shell of the retail space tenancy units (including storage areas);
- base building services including LV power, cold water supply, chilled water loops (for air conditioning), fire systems, sewage facilities;
- grease traps and ventilation exhausts (where appropriate);
- waste collection facility for the retail areas;
- loading bay for the retail areas;
- telephone and data systems; and
- glazed shopfront finishes.

OSD Enabling Works:

- detailed excavation;
- structural works, including fire isolating structures;
- internal walls required to form passageways for access, egress and service reticulation;
- a waterproof, secure and operable building envelope;
- fire life safety systems;
- provisions for Utility Services; and
- stormwater and drainage works.

Third Party Works:

- (Local Area Works) the resurfacing or reconstruction of affected roads, footpaths, cycle ways or other public amenities, landscaping, furniture, signage, traffic control signals, street lighting, and traffic and transport management;
- (Utility Services Works) the identification, protection, diversion, reconstruction or repair of affected Utility Services and new Utility Service connections including
  - A. manhole modifications in Miller Street;
  - B. stormwater attenuation storage in Denison Street;
  - C. Utility Services connections; and
  - D. Permanent infrastructure that is associated with the construction, modification or relocation of Utility Services.
- (Property Works) protection and adjustments to affected existing buildings and property, including demolition of built features.

The VC ISD Contractor must design and construct the Station Works and OSD Enabling Works to ensure that all building services required for the OSD's use, operation and maintenance have complete functional autonomy.

Over Station Development Works:

- Under the Project Delivery Agreement (PDA) the VC ISD will be required to complete all works above the Transfer Level and the fitout of the OSD related spaces located below the Transfer Level.

Temporary Works:

- Destressing any temporary rock anchors;
- Temporary arrangements to divert, guide and control pedestrians, public transport users, cyclists, traffic and to provide public access, amenity, security and safety during the works;
- Temporary arrangements for people including mobility impaired persons and vehicles to access all property, including public accessible space, affected by the Contractor's activities;
- Temporary arrangements for emergency services to access adjacent properties and the development;

- Temporary arrangements for people and vehicles to safely access the Construction Site;
- Temporary access stairs, walkways and platforms within the Construction Site;
- Temporary construction hoardings, fences, noise walls, access gates and barriers on and around the Construction Site;
- All environmental safeguards and measures necessary to mitigate environmental effects which may arise as a result of the Contractor's activities;
- Cleaning, maintenance, repair, replacement and reinstatement, as required, of all areas impacted by the Contractor's activities;
- Temporary site facilities required for the design and construction of the Project Works;
- Temporary arrangements for Utility Services;
- Temporary groundwater and stormwater collection, treatment and discharge systems and measures required to achieve discharge water quality required by all relevant Authorities and Approvals; and
- All other temporary works and measures required for the Contractor's activities.

The activities to be performed under the SDD include:

- The design, construction, delivery, testing, commissioning, operational readiness and handover activities for the Project Works and Temporary Works;
- Investigation, relocation, upgrading, installation, testing, commissioning, and protection of Utility Services as necessary in accordance with the Utility Service owners requirements;
- Management of interfaces with Interface Contractors including adopting an integrated and collaborative approach during design and construction;
- Obtaining all licences and approvals as required to deliver the Project Works and Temporary Works;
- Implementing effective and robust systems that address requirements for safety, quality, interfaces, performance, site management, stakeholder, community, sustainability, environmental management, workforce and industry participation;
- Management of impacts on the surrounding local areas including traffic, schools, nearby commercial areas, including management of heavy vehicles on public roads in accordance with the National Heavy Vehicle Law; and
- Preparation of all subdivision documents including the Subdivision Proposal, the Building Management Statement, section 88B instruments and any required subdivision plans to register the proposed subdivision of the land.

The activities to be performed under the OSD PDA include:

- Obtaining relevant statutory and regulatory approvals for the OSD Works;
- Making all the required Developer Payments to Sydney Metro;
- Designing, constructing and completing the OSD Works to effectively integrate with the Victoria Cross Station;
- Ensuring the Victoria Cross Station is able to operate independent of the OSD Works;
- Ensuring the station can operate in the event that the OSD Works are ongoing; and
- Entering into a contract for the sale of land for the Development Lot and the Retail Lease.

5 TUNNEL AND STATION EXCAVATION WORKS CONTRACTOR INTERFACE AND HANDOVER

5.1 Interface with Tunnel and Station Excavation Works Contractor

The interface between Lendlease and the Tunnel and Station Excavation Works (TSE) Contractor, as well as the Interface Contractors is defined in Appendix E1 Interface Management.

In Feb 2021, Lendlease was given site possession of the both the North and South Station boxes, as well as the Cavern. As Principal contract of the station, Lendlease will work with the Interface Contractors to ensure that the project delivery and handover is integrated, and to identify if any of the site constraints or conditions are different from those identified in the Interface Contractors Design and Assurance Documentation. Regular site inspections and progress reports from the Interface Contractors are in place, which assist the project team in managing any change in the works.

In addition to these construction and design measures, Lendlease will regularly meet with Sydney Metro and Interface Contractors at fortnightly Victoria Cross Cooperation and Integration Control Group meetings to discuss community and stakeholder issues along with communication requirements. The purpose of this meeting is to share valuable stakeholder engagement insights across the project and coordinate messages regarding the Victoria Cross station activities to minimise impacts to the community.

Lendlease will attend various coordination meetings with Interface Contractors and Sydney Metro including the Communication Management Control Group meeting, Transport Traffic Liaison Group meeting, the Sydney Coordination Office Emergency Services fortnightly meeting when required to provide updates on the VICX-ISD program, provide details on traffic and pedestrian management or gain approvals required for specific work.

5.2 Handover and Demobilisation of Tunnel and Station Excavation Works

Handover and demobilisation of the TSE Contractor occurred in February 2021, with Lendlease becoming the Principal contractor post-handover.

Building Information Modelling was used on the TSE as-built state with the capture of detailed survey or light detection and ranging (LiDAR) point cloud information to verify the full extent of TSE excavation and structural works. This has formed part of our assurance information packages and in carrying out this activity early in the handover we will de-risk delivery of the construction milestones and assurance activities in the Stations Mechanical and Electrical Works (STME) stage. In addition the TSE Contractor also completed the permanent tunnel structures that interface with the Victoria Cross Station structure. These include as shown below;

- The southern access adit Tunnel to the Metro Rail Tunnel;
- The northern access adit Tunnel to the Metro Rail Tunnel;
- The service access adit Tunnel to the Metro Connection Tunnel.

Handover – Builder Assumptions

- Temporary Lighting on the walls
- Hydrant in Place
- Power Provisions
- Ends of Nozzles Capped Off
- Cavern/Adits Clean of Debris

Photo Sourced from www.sydneymetro.info

FOR INFORMATION

RFT Submission
Schedule 13.2

Cavern
Site Setup – TSE Handover

6 SITE ESTABLISHMENT

6.1 Hoardings

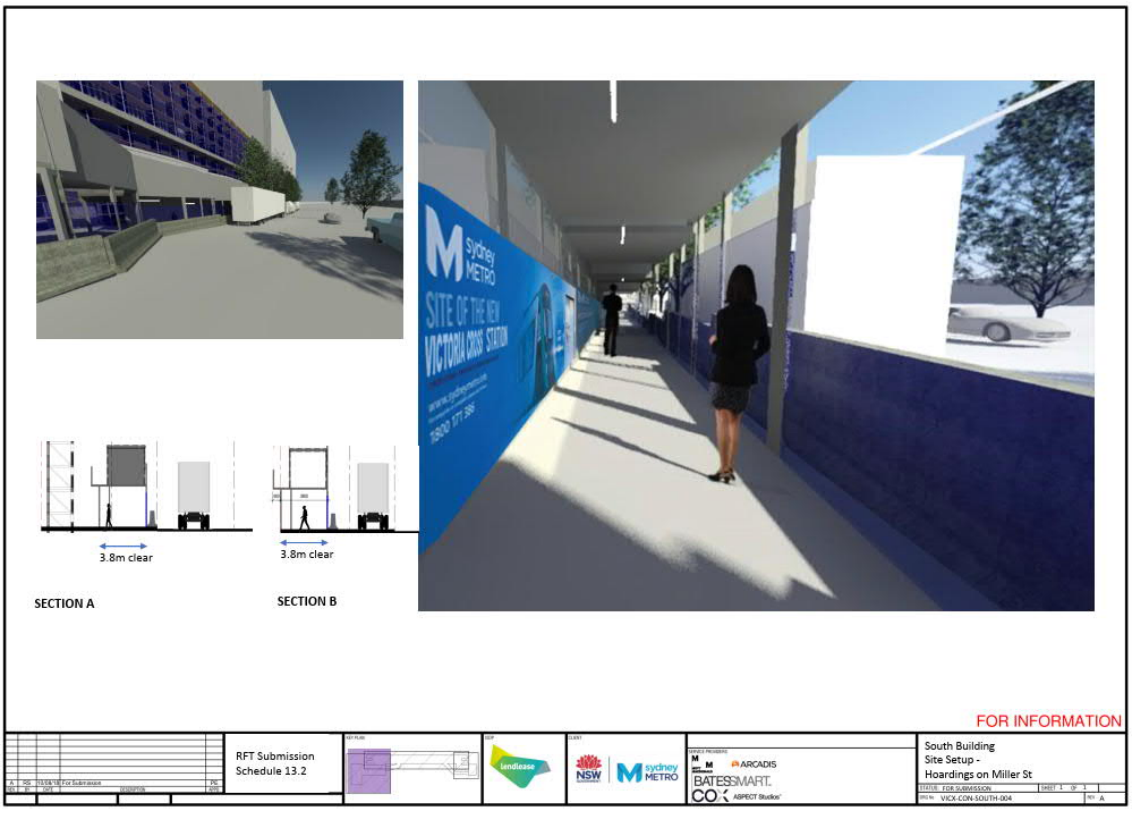
As part of site possession in February 2021, hoardings were handed over to Lendlease following completion of the works by the TSE Contractor in the North and South Sites.

B Class hoardings have been erected to the Miller Street, Berry Street, Denison Street and Maclaren Street frontages. These hoardings are branded and signed as per the Sydney Metro standards.

All hoardings have been designed, installed and maintained to ensure segregation of pedestrians, workforce and vehicles, with installations and ongoing inspections undertaken by respective temporary works engineers.

Hoardings have been designed for overhead impact load and are well lit after hours.

The current hoardings will remain in place as the OSD build commences, with areas adjacent to Station entrances being removed to facilitate station access prior to OSD completion. Refer to Section 10 for further details on OSD hoardings.



6.2 Site Security and Gates

The site perimeter will be secure at all times with no unauthorised access permitted. The site perimeter will be secured as a minimum with full height plywood to the inside face of all B Class hoardings.

Out of hours security patrols will be utilised strategically during the project. The focus will be on the back end of the project, as the potential for theft and vandalism increases. Shutdown periods (Christmas and Easter) will also be monitored by external security services.

Construction worker access to the site will be strictly controlled through a secured gate system and individuals will require personalised identity swipe cards. This creates a live record of the workers on-site at any given time, which can be accessed in case of an emergency or during an evacuation.

The Principal's Representative personnel, Rail Contractors personnel and any other person nominated by the Principal's Representative will be provided access after completing the necessary form of induction. Due to the changing nature of the works on the construction site and a level of unfamiliarity with the progress of the works, the induction provided in these cases will require that these visitors to site are escorted at all times whilst on site, except for Rail Contractors who will be escorted to and from their work areas only.

For day to day operations of managing security onsite, please refer to the Sydney Metro VICTORIA CROSS Integrated Station Development Security Management Plan (SecMP).

6.3 Site Accommodation / Amenities and Project Office

6.3.1 *Project Office*

The Project Site Office will be located at 194 Miller Street North Sydney and will include the accommodation for the project management staff as well as the Principal as described in Schedule C1 to the SWTC. This office will be relocated into the OSD post completion of the Station.

6.3.2 *Workforce Accommodation*

Accommodation and amenities for the construction workforce will be provided in stages. Initial site accommodation sheds will be erected on top of the South Sites B Class, with 10kPa overhead protection to the sheds and the northern end of the adjacent lot to the North site.

As construction progresses and back-propping is stripped, the capacity of the on-site accommodation and amenities will be further expanded by constructing purpose built undercover accommodation. This will cater for the increase in workforce numbers and facilitate dry access to various workfaces. This will be inclusive of Interface contractors who will be housed in accommodation situated on carpark basement levels. Worker accommodation for the OSD will be on the lower floors of the tower.

6.4 Hours of Construction

The site working hours have been defined in the CSSI consent conditions, which are;

Monday to Friday:	7am – 6pm
Saturday:	8am – 1pm
Sunday:	No work

Lendlease has extended these hours under the OOH Protocol to include Saturdays from 7am to 6pm, which is consistent with TSE Metro works and other Central Business District (CBD) construction projects. The OSD hours are in line with the above, with an extension also being requested for extended hours.

There will also be times when out of hours works are required. An Out Of Hours (OOH) Protocol for the assessment, management and approval of work outside of standard construction hours will be

prepared and submitted for approval for works not subject to an EPL. Out of hours works subject to an EPL will be approved in accordance with the conditions of the EPL.

6.5 Workforce Development

Development of the workforce will take place on a regular basis. Competencies, Licencing, Learning and Development activities relevant to the implementation of the Project and Temporary Works will be tracked and monitored throughout the project.

The Lendlease National EHS Head Office Service Function has overall responsibility for ensuring that a national EHS learning and development framework is identified and maintained to facilitate learning and development across Lendlease Building consistent with the Lendlease vision of incident and injury free workplaces, Lendlease Global Minimum Requirements for EHS and legislative requirements.

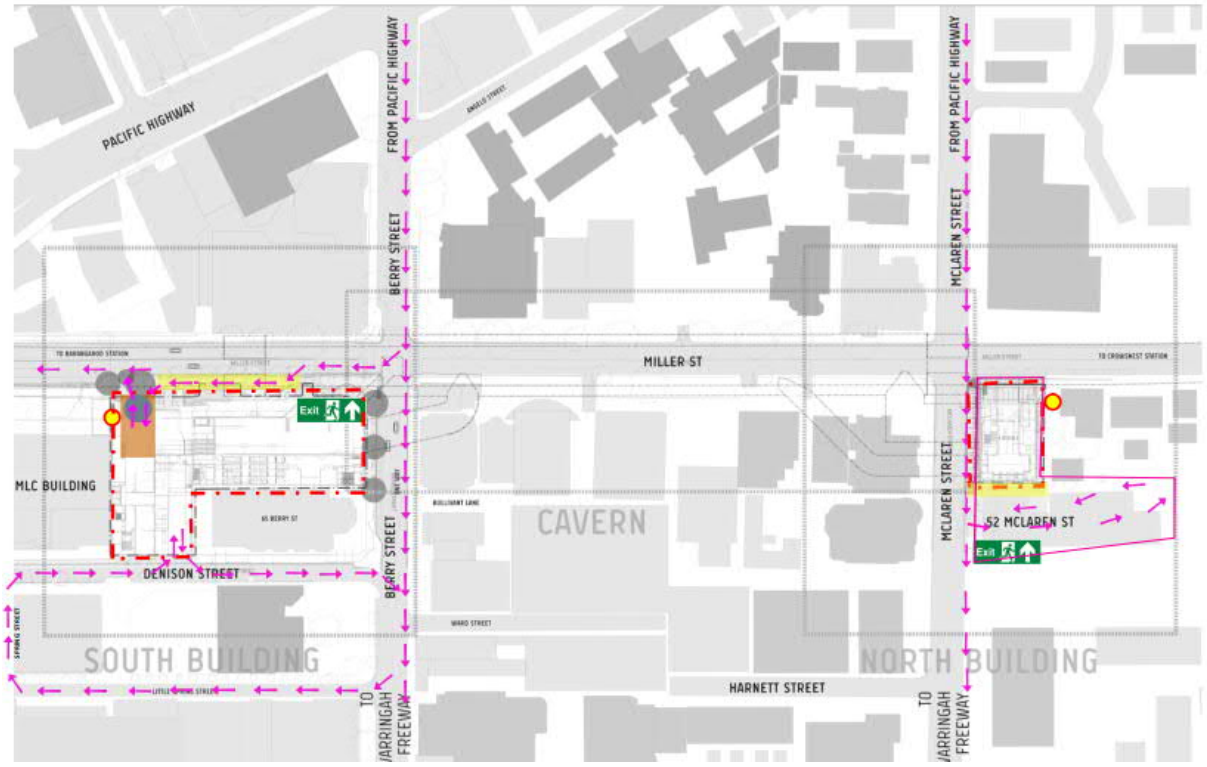
The Construction Manager or equivalent Workplace Manager in consultation with the Regional EHS Manager and Operations Manager has overall accountability for implementing workplace specific planning and related learning and development consistent with the LLB national EHS Learning and Development Matrix.

Learning and development activities will be managed in accordance with the EHS Management System Manual 'Learning and Development'. The key tools that assist with managing learning development activities include the EHS Learning and Development Matrix and the Lendlease Building Learning and Development Workspace/Workday Learning, which ensures training needs are identified, and training is undertaken and recorded for compliance verification purposes.

7 TRAFFIC AND PEDESTRIAN MANAGEMENT

7.1 Traffic Management Overview

One of the keys to the successful delivery of Victoria Cross Project will be managing the flow of materials and equipment into and out of the construction site whilst maintaining a continuity of business for the North Sydney CBD. Planning will consider and successfully manage the maintenance of pedestrian and vehicular traffic flow to the surrounding buildings and roads.



Several key traffic management strategies to minimise and mitigate Victoria Cross Project effects on the surrounding North Sydney CBD will be adopted, including:

- Engagement of Traffic Management Consultant to compile an overall Construction Traffic Management Plan (CTMP), specific Traffic Control Plans detailing each management of pedestrian, vehicular construction and operational traffic at each stage of works. These plans will be updated as required and approved by the TCG.
- Encouraging staff, consultants and subcontractors to adopt a Green Travel Plan for this project with use of public transport to and from site.

7.2 Existing Traffic Management and Control

The existing site has several trafficable street frontages as is shown in the above diagram.

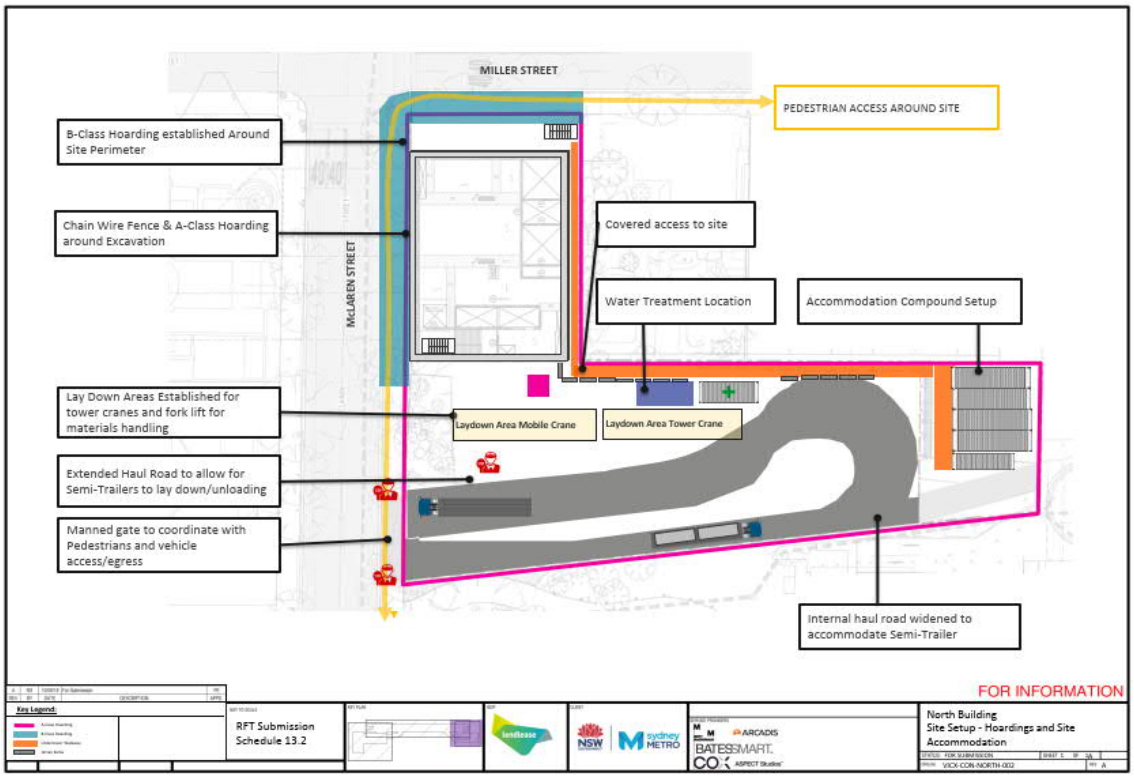
Further details of the management of traffic and pedestrians can be found in the relevant CTMP's.

7.3 Pedestrian Management and Control

Lendlease will ensure that nearby stakeholders, commuters and visitors to the North Sydney CBD are properly informed of any required footpath closures, and work with the North Sydney Council to provide alternate travel paths to major destinations.

7.4 Proposed Construction Zones

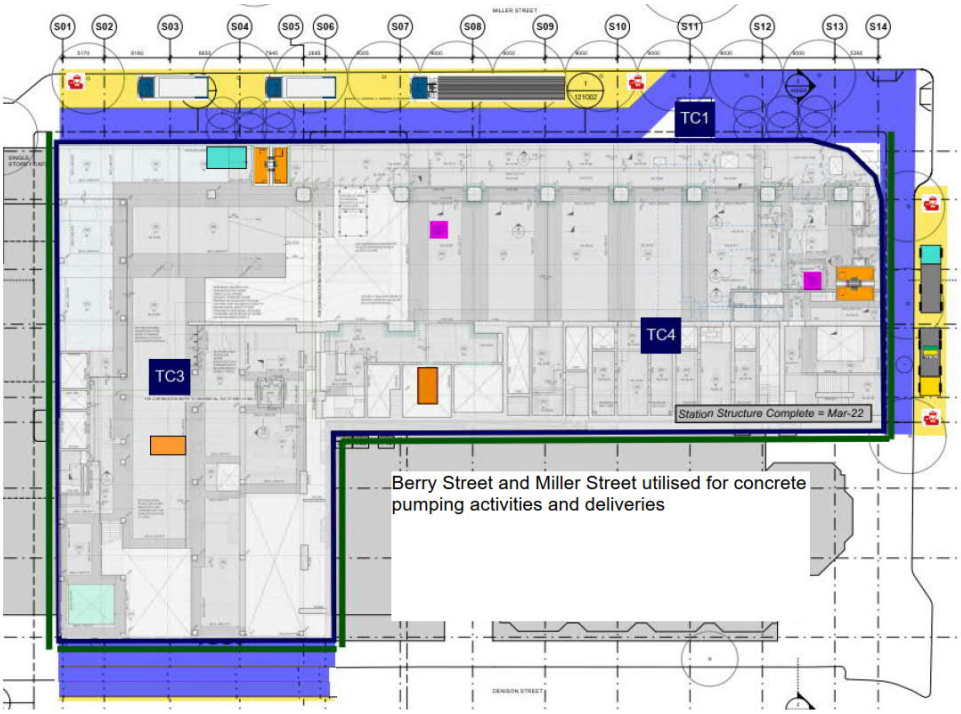
See below which shows the proposed construction zones for the North Site:



As indicated above, the primary construction zone is internal to the northern site minimising traffic impact to Berry and McLaren streets.

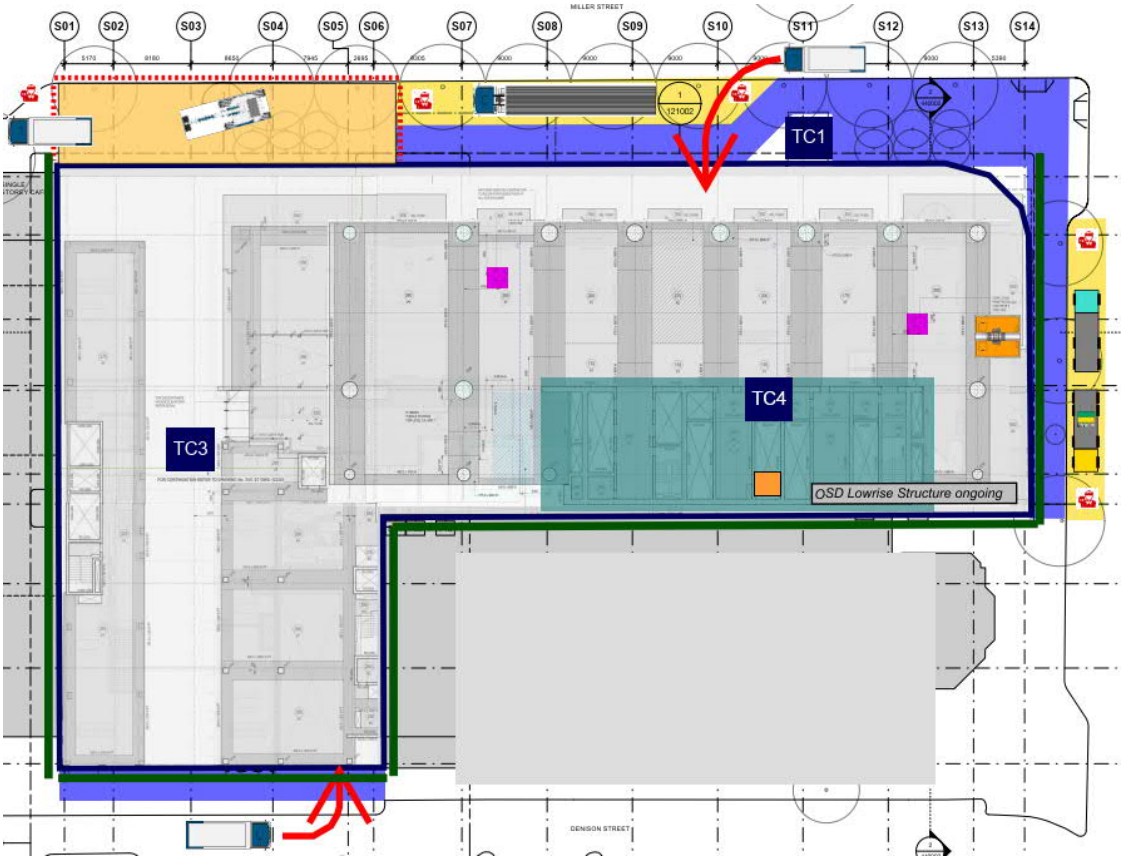
With respect to the Southern Site construction zones will be established on Miler Street, Denison Street and Berry Street (at various stages throughout the project). An additional construction zone in Berry zone is proposed to be established to facilitate materials delivery and logistics.

STAGE 1 – Station Works/ODS Works



STAGE 2 – Station/OSD Works

STAGE 3 – OSD Works



Approval of the Miller Street and Berry Street construction zones has been received from the Sydney Co-ordination Office and North Sydney council. The Denison Street Construction zone is pending activation following completion of the Denison St stormwater upgrade.

These construction zones are key logistical unloading and lifting zones, allowing the tower cranes to feed materials onto the tower floors progressing the completion of the respective station sites and tower.

7.5 Proposed Construction Traffic Management and Control

A Traffic Management plan and a CTMP is currently in place for the Station works, which identifies, documents and implements the strategy for managing pedestrian and vehicular traffic construction movements for the precinct. This document will be updated as required. This CTMP will also include a Traffic Control Plan for each stage of construction works, across all key work areas - in particular the services infrastructure and public domain works outside of the site footprint.

Traffic management and control is established and maintained across all major roads and interfaces across the project. Traffic control in the form of traffic controllers, warning lights and pedestrian boom gates will be in place at all site access/egress and construction zones to ensure:

- Segregation of the public from truck movements in and out of the project.
- Segregation of construction worker access from construction vehicular access in and out of the project.

- Materials and deliveries do not impede public roadways or footpaths.
- Streamlining of time taken for truck movements in and out of the project.

Further details of the management of traffic and pedestrians can be found in the CTMP.

As a general principle, site deliveries will operate on a 'just in time' basis, whereby materials are delivered as required. This will be true for precast concrete, reinforcement and to some extent, formwork. For the South site, in the event that storage of materials is required, or when a staging area is needed for assembly of formwork systems or dressing of prefabricated reinforcement modules, the adjacent OSD carpark slab will be utilised. For the North site, in the event that storage of materials is required, or when a staging area is needed for assembly of formwork systems or dressing of prefabricated reinforcement modules, the adjacent laydown site will be utilised.

7.6 Construction Worker Access to Site

As there is no parking available on-site, all subcontractors and construction workers will be encouraged to use public transport via nearby train, bus and ferry networks.

Workers will access site via a secure entry off Berry St (South Site) and McLaren St (North Site). All drop-off zones for tools and equipment will be via the Construction Loadings Zones under the control of Lendlease Traffic and Pedestrian Management.

Further details of the management of traffic and pedestrians can be found in the relevant CTMP's.

8 NORTH SITE AND CAVERN CONSTRUCTION STAGING

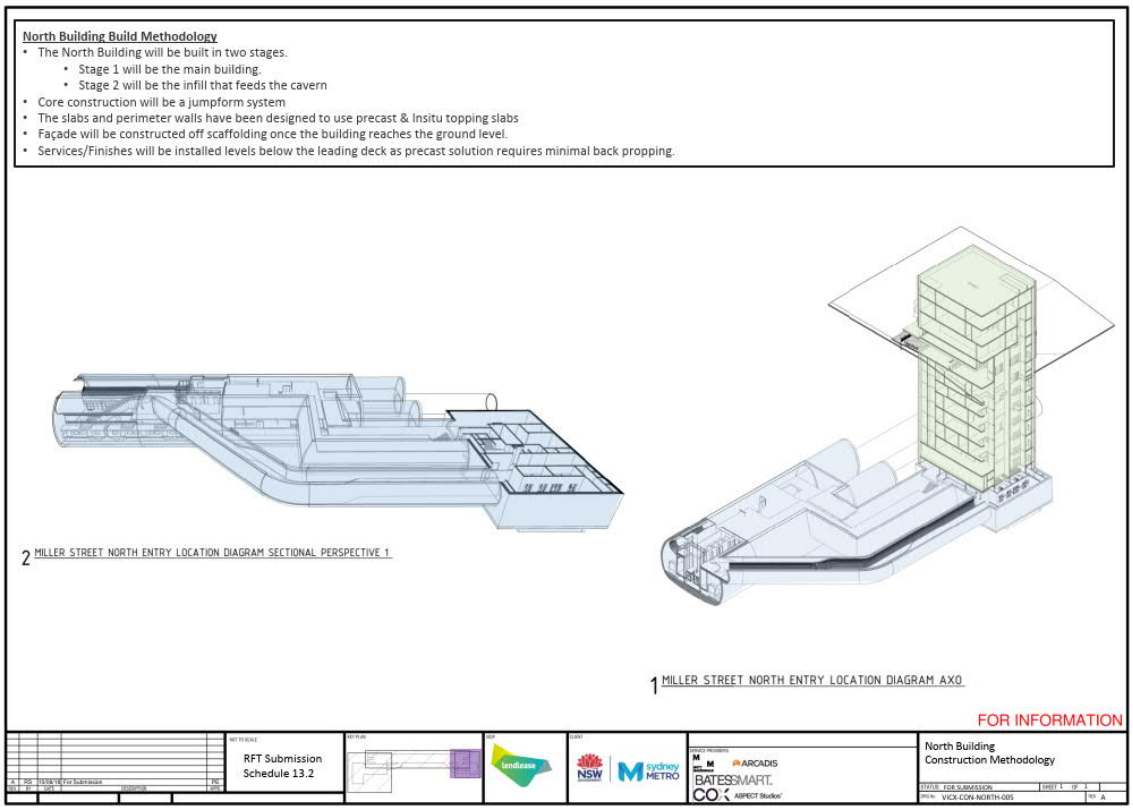
8.1 Detailed Excavation

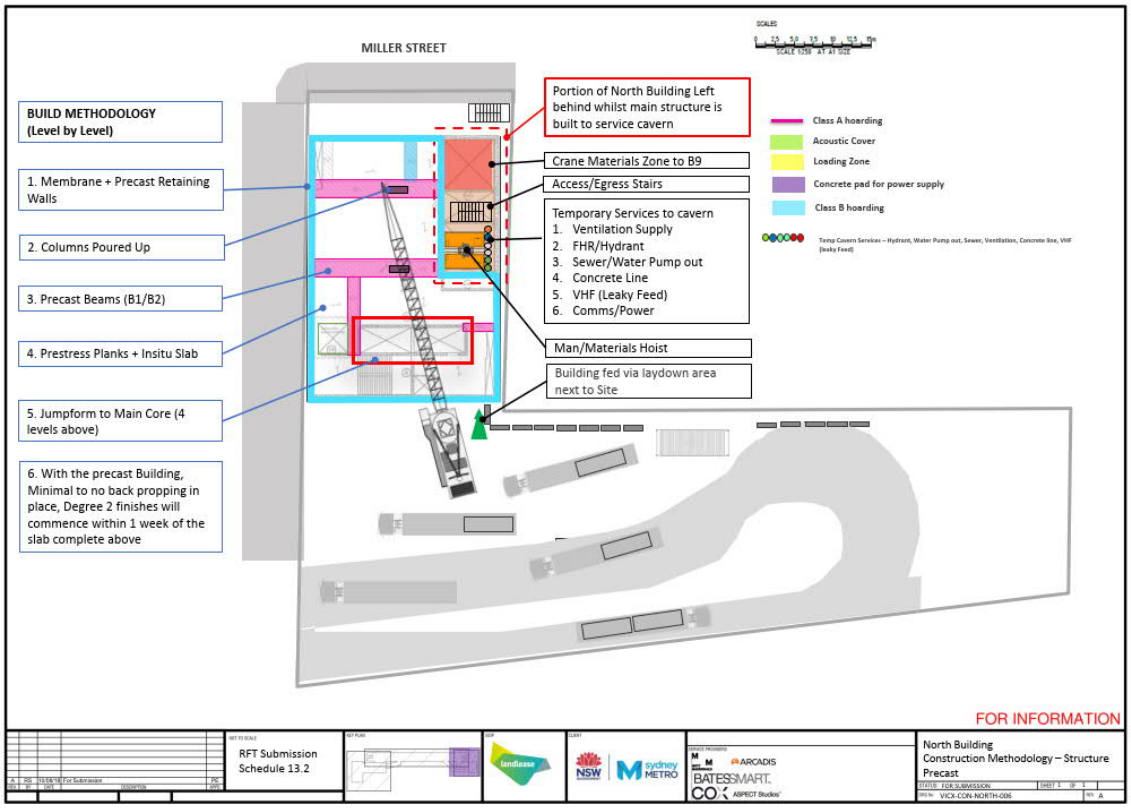
At the completion of bulk excavation and handover by TSE, the detailed excavation of the pad and strip footings in the North Site will be completed by large excavators with rock saw and rock hammer attachments. The spoil will be removed from the excavation level to the street level using direct-on-truck spoil skips lifted by the site tower crane.

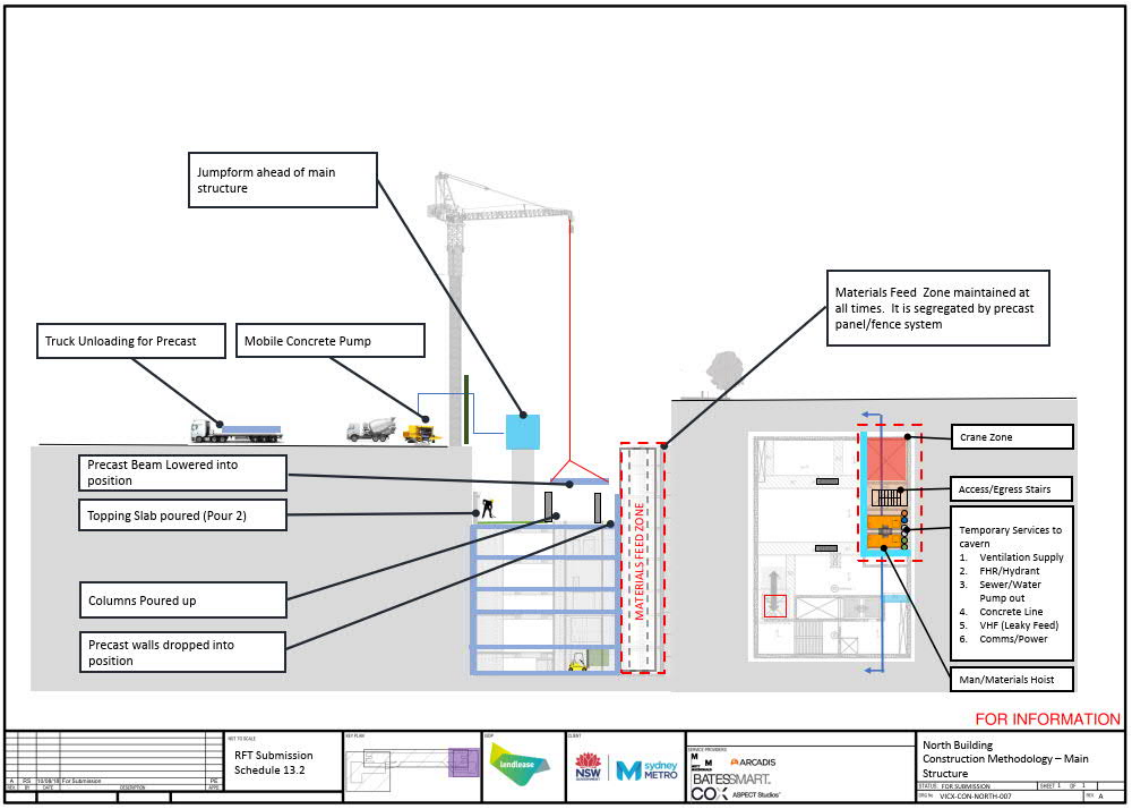
8.2 Construction Sequence and Methodology

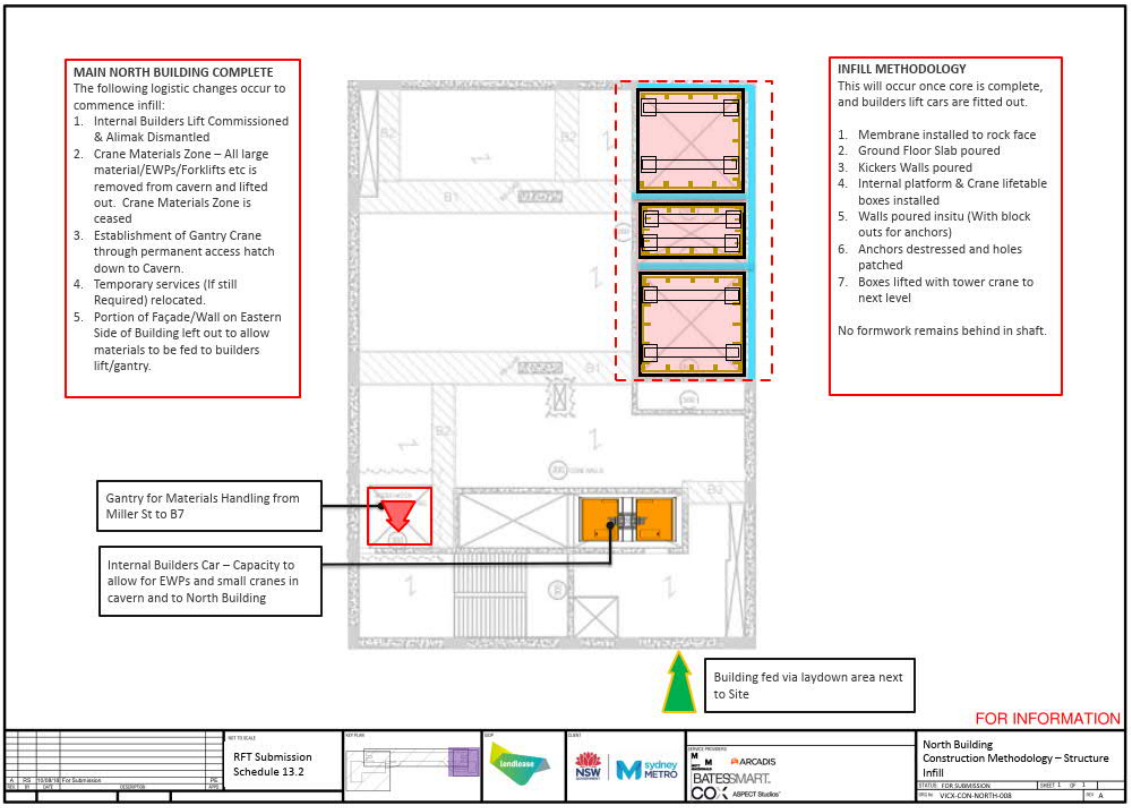
The fundamental strategy for the basement structure construction will be to maintain a consistent pour sequence, using a combination of precast and insitu elements and thereby achieving continuity for both subcontractor and materials handling resources.

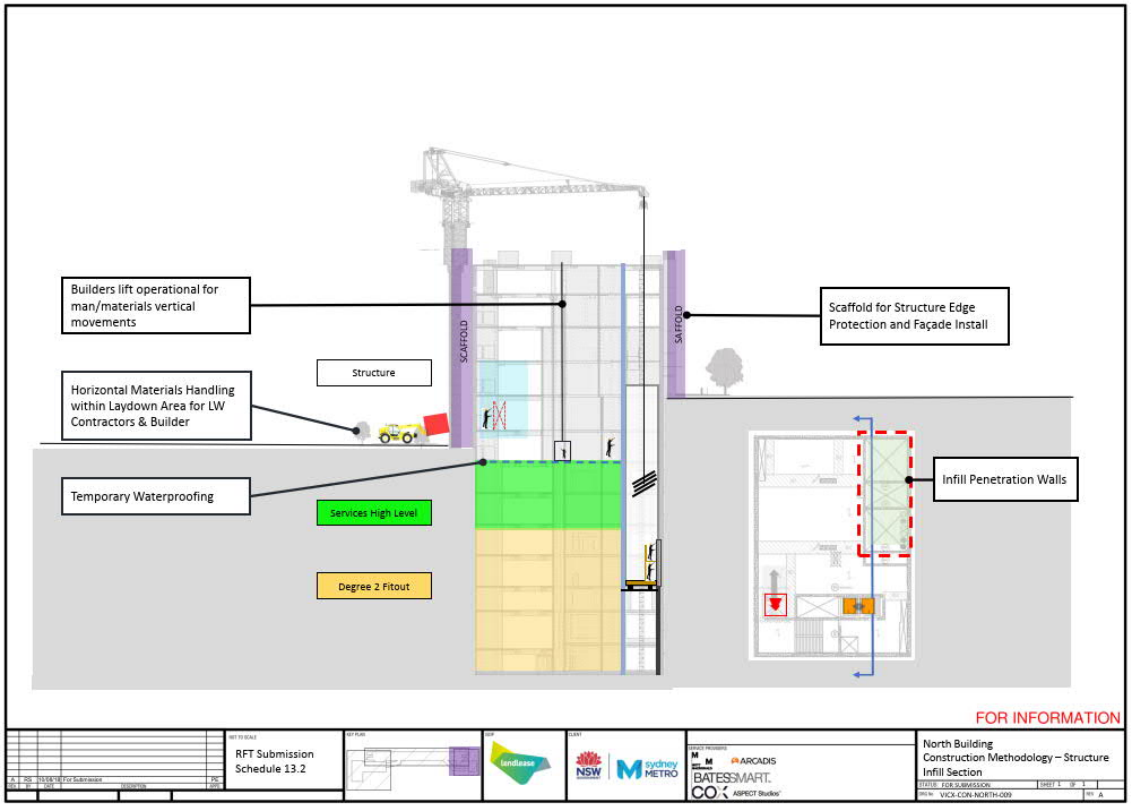
The following diagrams show the proposed structure methodology, overall sequence, core delineation, temporary services and materials handling / personnel movement strategy for the basement floors.




MILLER STREET
BUILD METHODOLOGY (Level by Level)
1. Membrane + Precast Retaining Walls
2. Columns Poured Up
3. Precast Beams (B1/B2)
4. Prestress Planks + Insitu Slab
5. Jumpform to Main Core (4 levels above)
6. With the precast Building, Minimal to no back propping in place, Degree 2 finishes will commence within 1 week of the slab complete above
Portion of North Building Left behind whilst main structure is built to service cavern
Crane Materials Zone to B9
Access/Egress Stairs
Temporary Services to cavern
1. Ventilation Supply
2. FHR/Hydrant
3. Sewer/Water Pump out
4. Concrete Line
5. VHF (Leaky Feed)
6. Comms/Power
Man/Materials Hoist
Building fed via laydown area next to Site
Class A hoarding
Acoustic Cover
Loading Zone
Concrete pad for power supply
Class B hoarding
FOR INFORMATION
RFT Submission Schedule 13.2
North Building Construction Methodology – Structure Precast

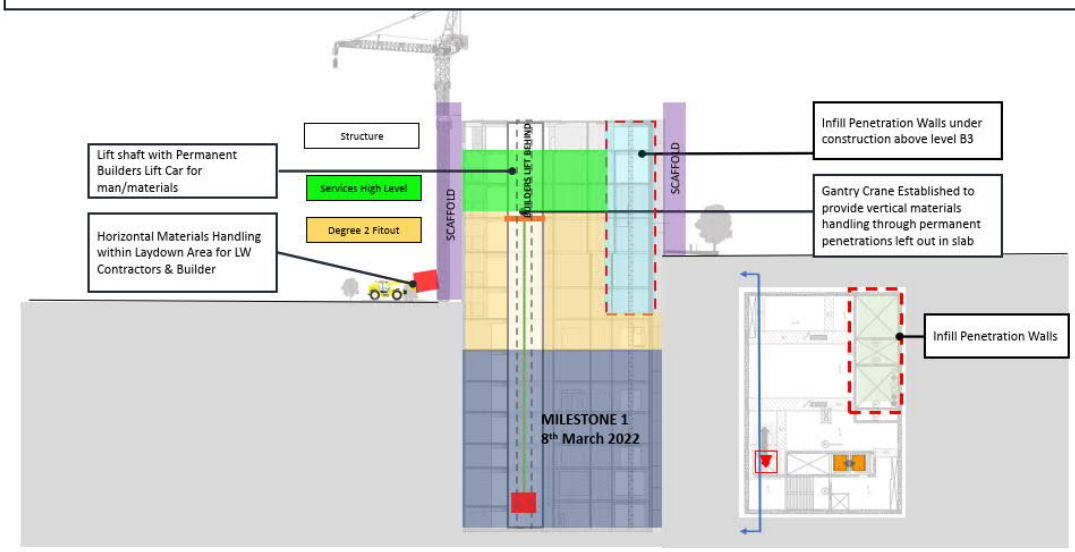

Jumpform ahead of main structure
Truck Unloading for Precast
Mobile Concrete Pump
Materials Feed Zone maintained at all times. It is segregated by precast panel/fence system
Precast Beam Lowered into position
Topping Slab poured (Pour 2)
Columns Poured up
Precast walls dropped into position
MATERIALS FEED ZONE
Crane Zone
Access/Egress Stairs
Temporary Services to cavern
1. Ventilation Supply
2. FHR/Hydrant
3. Sewer/Water Pump out
4. Concrete Line
5. VHF (Leaky Feed)
6. Comms/Power
Man/Materials Hoist
FOR INFORMATION
RFT Submission Schedule 13.2
North Building Construction Methodology – Main Structure


MAIN NORTH BUILDING COMPLETE
The following logistic changes occur to commence infill:
1. Internal Builders Lift Commissioned & Alimak Dismantled
2. Crane Materials Zone – All large material/EWPs/Forklifts etc is removed from cavern and lifted out. Crane Materials Zone is ceased
3. Establishment of Gantry Crane through permanent access hatch down to Cavern.
4. Temporary services (If still Required) relocated.
5. Portion of Façade/Wall on Eastern Side of Building left out to allow materials to be fed to builders lift/gantry.
INFILL METHODOLOGY
This will occur once core is complete, and builders lift cars are fitted out.
1. Membrane installed to rock face
2. Ground Floor Slab poured
3. Kickers Walls poured
4. Internal platform & Crane lifetable boxes installed
5. Walls poured insitu (With block outs for anchors)
6. Anchors destressed and holes patched
7. Boxes lifted with tower crane to next level
No formwork remains behind in shaft.
Gantry for Materials Handling from Miller St to B7
Internal Builders Car – Capacity to allow for EWPs and small cranes in cavern and to North Building
Building fed via laydown area next to Site
FOR INFORMATION
RFT Submission Schedule 13.2
North Building Construction Methodology – Structure Infill


Builders lift operational for man/materials vertical movements
Horizontal Materials Handling within Laydown Area for LW Contractors & Builder
Temporary Waterproofing
Structure
Services High Level
Degree 2 Fitout
SCAFFOLD
SCAFFOLD
Scaffold for Structure Edge Protection and Façade Install
Infill Penetration Walls
FOR INFORMATION
RFT Submission Schedule 13.2
North Building Construction Methodology – Structure Infill Section

Milestone 1

- LW Contractors will enter/access site as per all other contractors onsite. They will be inducted which provides them access for all areas. Deliveries will be scheduled as per the site protocols for North/South buildings.
- Vertical movements for materials handling will be provided either via a man/,materials hoist or builders lift, crane or gantry crane. Personnel will either use man/materials hoist or builders lift.
- For major plant equipment within this building, coordination will be carried out with LW contractors at an early stage to allow for this equipment to be dropped into position prior to Milestone handover. The Precast design solution allows minimal back propping for clear access.
- Building watertight below B2



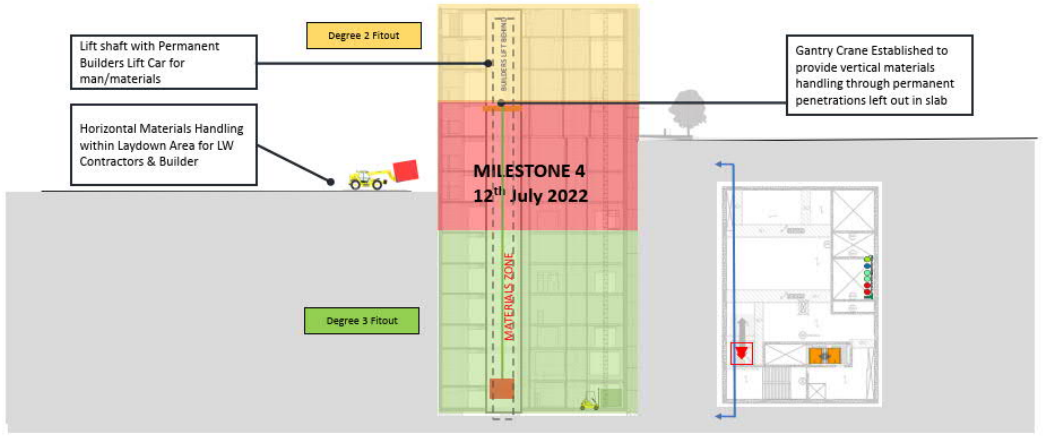
FOR INFORMATION

RFT Submission Schedule 13.2

North Building Construction Methodology – Milestone 1

Milestone 4

- LW Contractors will enter/access site as per all other contractors onsite. They will be inducted which provides them access for all areas. Deliveries will be scheduled as per the site protocols for North/South buildings.
- Vertical movements for materials handling will be provided via the builders lift and gantry crane. Personnel will traverse vertically in the builders lift/stairs.
- Building Structure Complete and Watertight



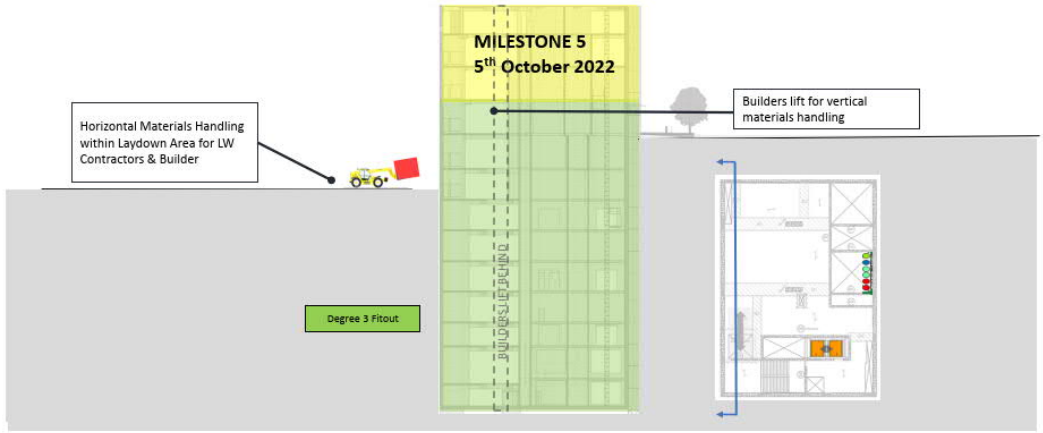
FOR INFORMATION

RFT Submission Schedule 13.2

North Building Construction Methodology – Milestone 4

Milestone 5

- LW Contractors will enter/access site as per all other contractors onsite. They will be inducted which provides them access for all areas. Deliveries will be scheduled as per the site protocols for North/South buildings.
- Vertical movements for materials handling will be provided either via the builders lift and gantry crane. Personnel will traverse vertically in the builders lift/stairs
- Building Complete and Watertight



FOR INFORMATION

RFT Submission Schedule 13.2

North Building Construction Methodology – Milestone 5

VICX-CON-NORTH-012

Demobilisation

- Regrading of handover for handover to TFNSW
- All site accommodation dismantled and removed offsite
- Two sheds remain to complete the re-grading works

FOR INFORMATION

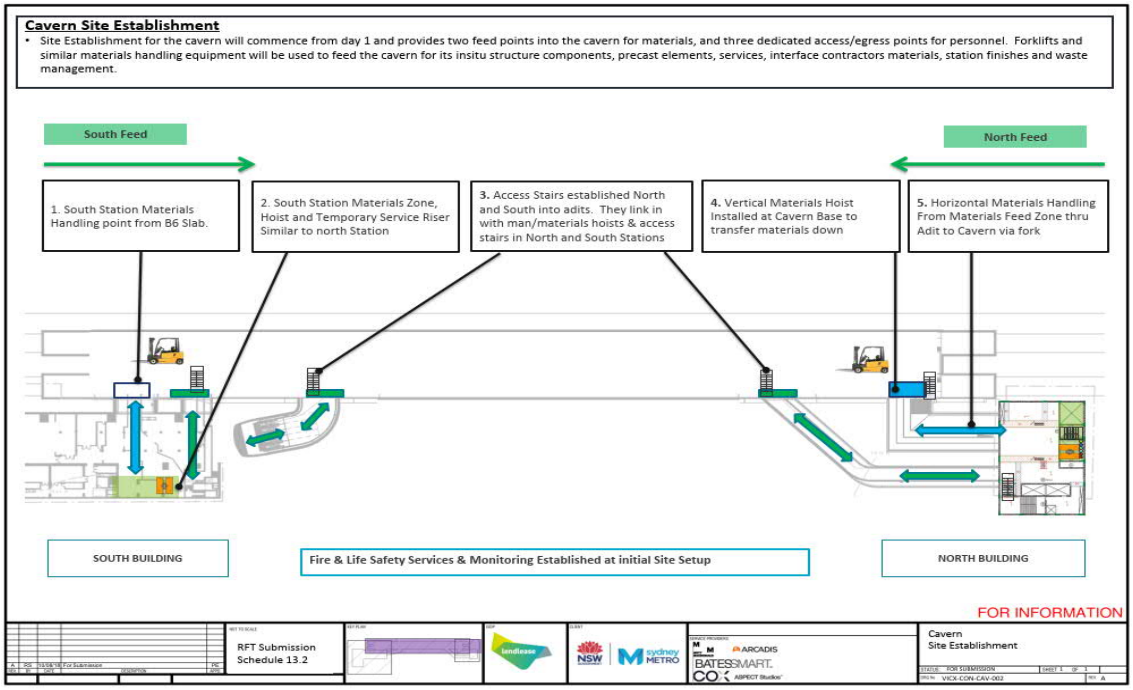
RFT Submission Schedule 13.2

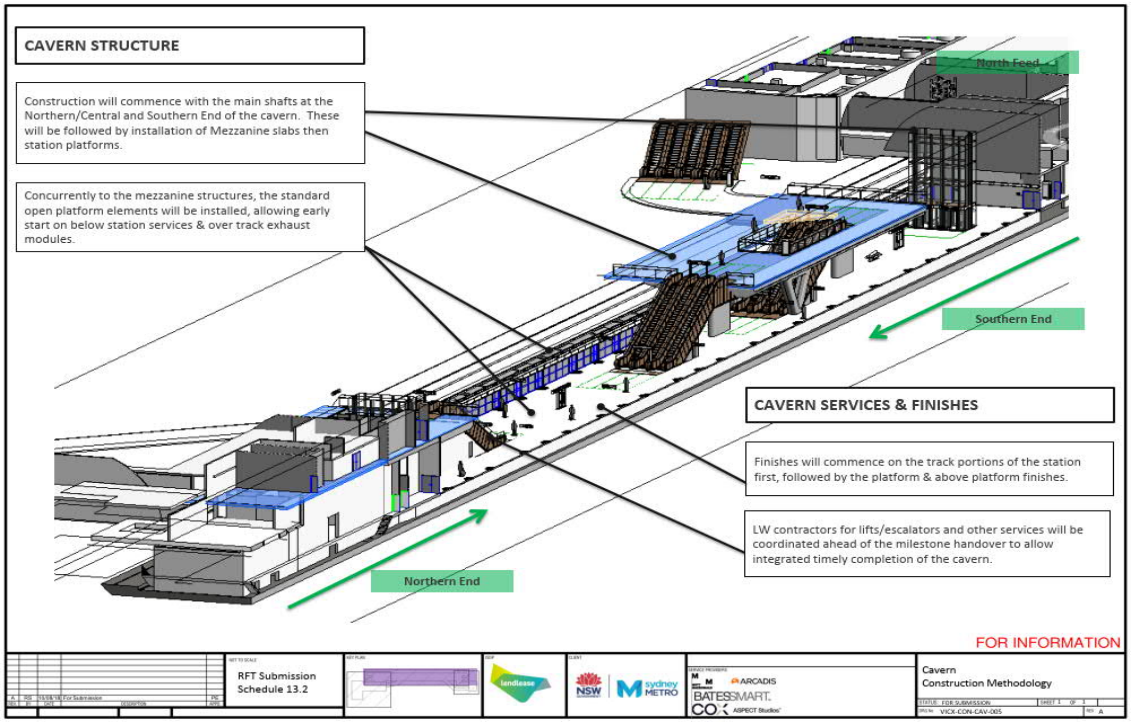
North Building Site Demobilisation

VICX-CON-NORTH-013

8.3 Cavern Staging

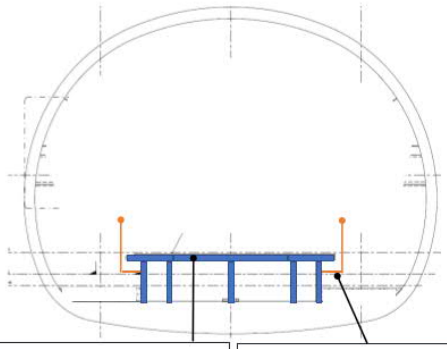
With respect to Cavern construction the following diagrams illustrate the planned site establishment methodology, structure and finishes sequence, and Line Wide delineation measures during the Milestone handovers.





Cavern Structure Methodology

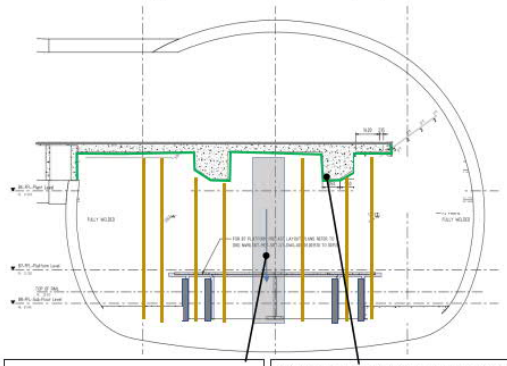
Precast Portion of Platform with No Mezzanine's



Precast station elements are placed in position, with the centre precast element installed after the two end pieces.

A handrail is installed prior to accessing onto the platform

Platform with Mezzanine's above



Insitu core walls/columns are poured up first to either platform or mezzanine height.

The mezzanine structure is formed up with scaffold as edge protection. The slab is poured with the walls/columns poured down.

FOR INFORMATION

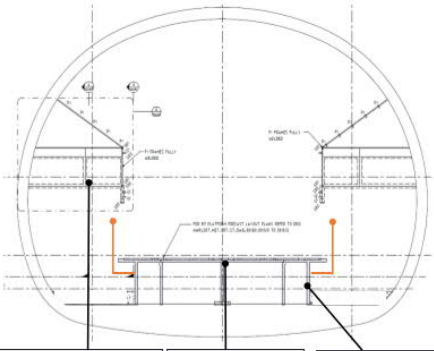
RFT Submission
Schedule 13.2

Cavern
Structure Methodology
Sheet 1

VICX-CON-CAV-006

Cavern Structure Methodology

Precast Portion of Platform with No Mezzanine's

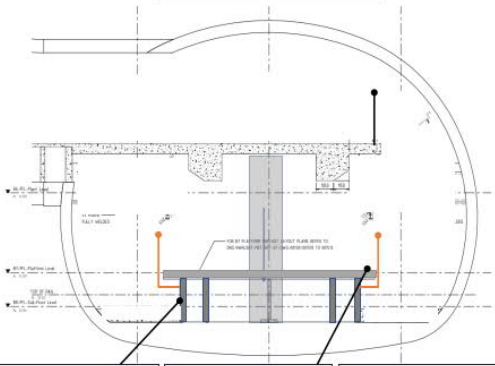


Prefabricated Overtrack exhaust is installed in its prefabricated sections with services following behind.

Platform topping slab is poured

Under Track exhaust and under platform services are installed

Platform with Mezzanine's above



Formwork & Scaffold is stripped down and platform is built. This is constructed using precast modules.

Handrail is installed to the platform edges before access on top. Topping slab is poured.

Escalators & Lifts to are lowered in through the adits onto the mezzanine structures and installation commenced.

FOR INFORMATION

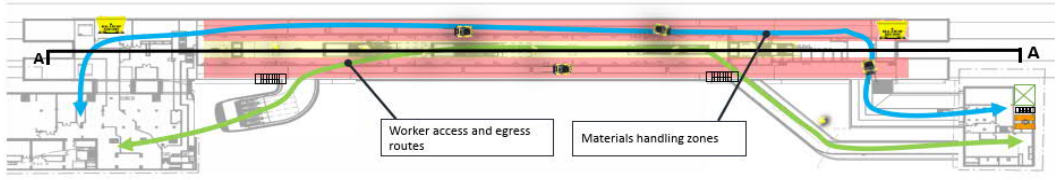
RFT Submission
Schedule 13.2

Cavern
Structure Methodology
Sheet 2

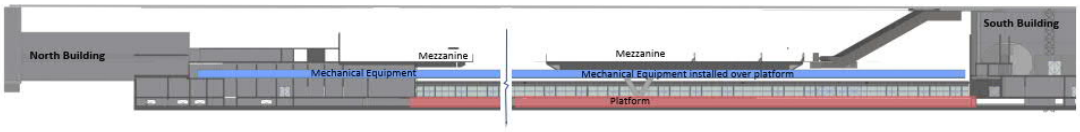
VICX-CON-CAV-007

Cavern Construction – Fitout Degree 2 and 3 Finishes

- Access, egress and materials handling will rely on the below routes highlighted in green and blue in the cavern plan.
- Once access is provided to the mezzanines, routes will be modified to allow for movements of material and personnel from the South and North Buildings, down through the adits, onto the Cavern Mezzanines and then onto platforms.
- LW Contractor coordination is critical to providing vertical access from mezzanines to the platforms, whilst the escalator installation is important for the degree 2 and 3 finishes to occur.



Cavern Plan



Cavern Section A

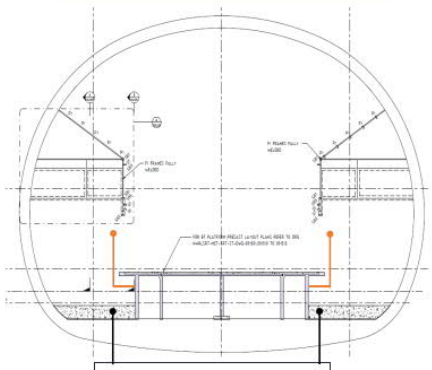
FOR INFORMATION

RFT Submission
Schedule 13.2

Cavern Construction -Fitout

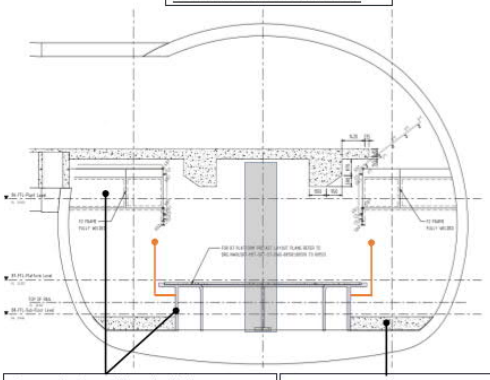
Cavern Structure Methodology

Precast Portion of Platform with No Mezzanine's



Trackway slab installed
Station finishes degree 2 underway

Platform with Mezzanine's above



Overtrack exhaust is installed in its prefabricated sections with services following behind & Under Track exhaust and under platform services are installed.

Trackway slab installed
Station finishes degree 2 underway

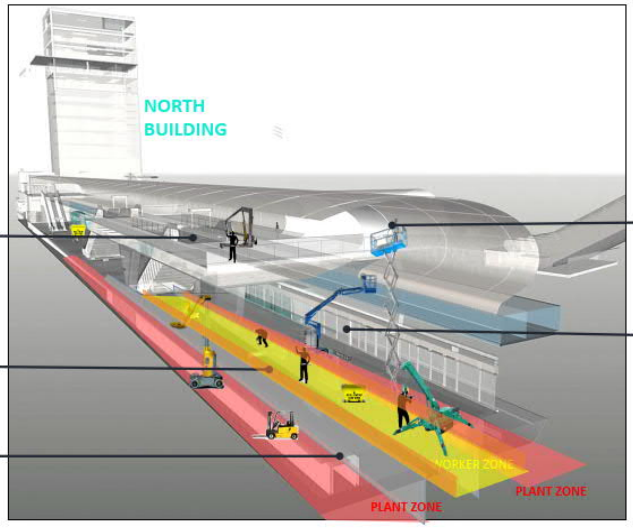
FOR INFORMATION

RFT Submission
Schedule 13.2

Cavern
Structure Methodology
Sheet 3

Cavern Construction Fitout - Degree 2 and 3 Finishes

- A series of different access equipment and small cranes will be used to install the over track exhaust, services, and finishes to the cavern.



All works will follow a sequence South to north. Ceiling above platform will be the last element installed

Personnel will be restricted to the platform separating them from plant by handrail. After Portion 1 Handover a hoarding is installed in place.

Prior to Portion 1 – The trackway area will be used for plant/equipment.

Linewide Escalator plant and equipment will be dropped in as soon as the mezzanine is linked with the Adit in the south.

Linewide Lift Contractor equipment will be pre-loaded and installation commenced as soon as mezzanine structures are poured. Lift operation will allow access for workers and materials to the platforms.

FOR INFORMATION

RFT Submission Schedule 13.2

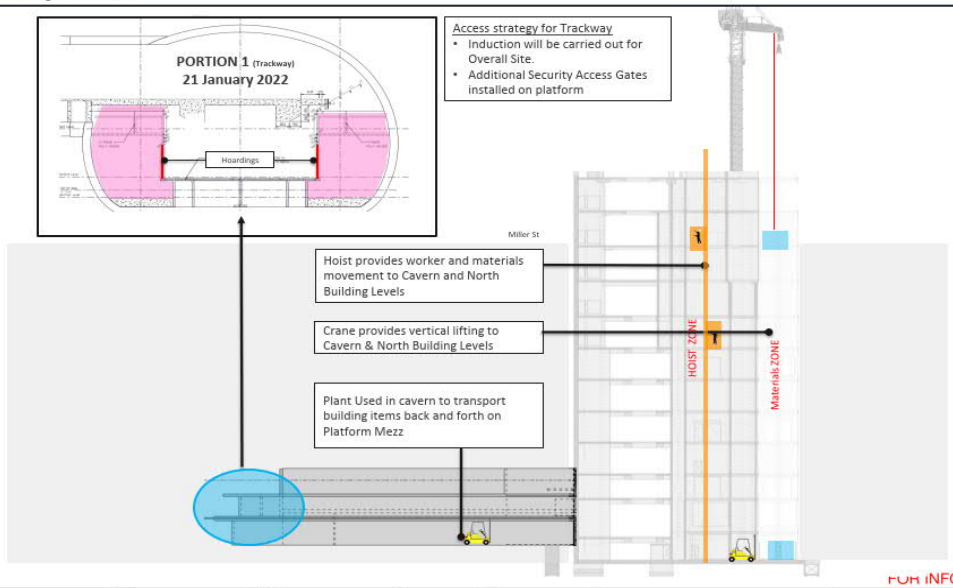
Cavern
Construction -Fitout Logistics

Portion 1 Handover

- Linewide Contractors will enter/access site as per all other station contractors. They will be inducted for access for all station areas. Deliveries will be scheduled as per the site protocols and made to the North/South buildings as required.
- Vertical movements for materials handling will be provided either via the builders lift or tower crane. Personnel will traverse vertically in the builders lift/stairs. Forklifts will be used for horizontal materials handling into the cavern.

Access strategy for Trackway

- Induction will be carried out for Overall Site.
- Additional Security Access Gates installed on platform



Hoist provides worker and materials movement to Cavern and North Building Levels

Crane provides vertical lifting to Cavern & North Building Levels

Plant Used in cavern to transport building items back and forth on Platform Mezz

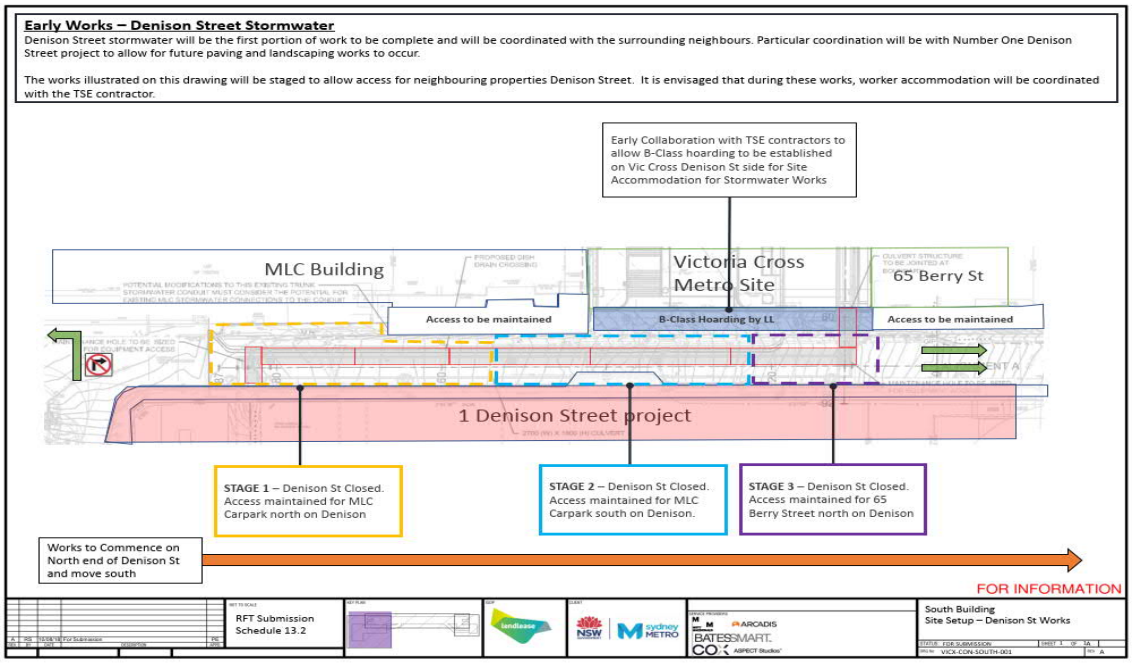
FOR INFORMATION

RFT Submission Schedule 13.2

Cavern
Construction - Portion 1 Handover

8.4 Denison Street Stormwater

The following diagram illustrates the extent of the Denison Street stormwater scope inclusive of staging to minimise impact to adjoining stakeholders.



9 SOUTH SITE CONSTRUCTION STAGING

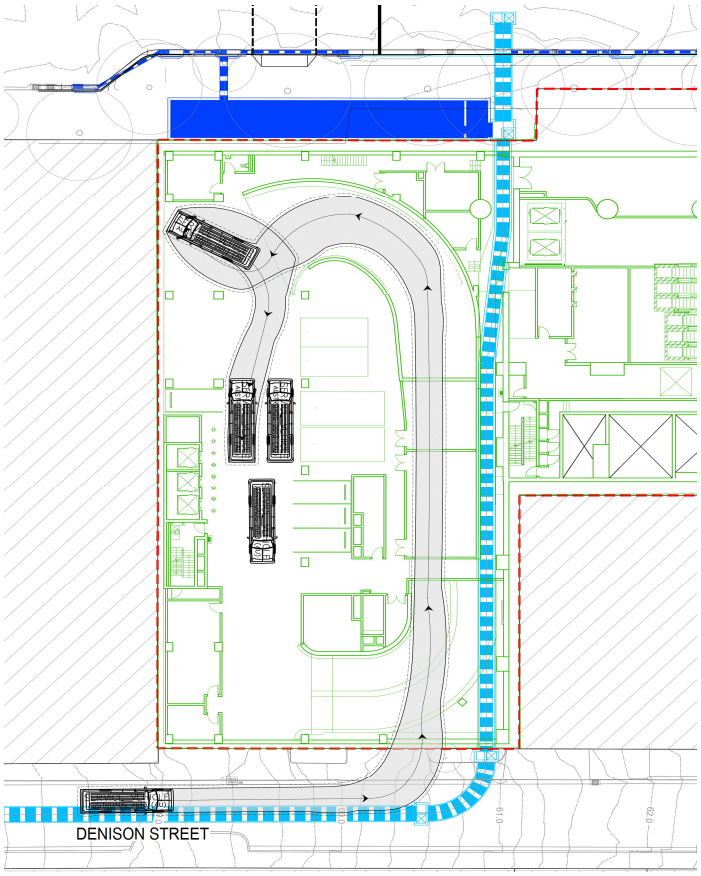
The South Site with associated basement levels will form a key operational area of the Metro Station works. Completion of these areas is critical to handover to the Line-Wide Contractors. Handover to Line-Wide will occur in a staged manner in accordance with the pre-agreed contract milestone handover sequence.

9.1 Detailed Excavation

At the completion of bulk excavation and handover by TSE, the detailed excavation of the pad and strip footings in the South Station will be completed by large excavators with rock saw and rock hammer attachments. The spoil will be removed from the excavation level to the street level using direct-on-truck spoil skips lifted by the site tower crane. All excavation at the B6 level is now complete, with the B2 works currently underway.

9.2 B1 Loading Dock Concrete Pumping Zone

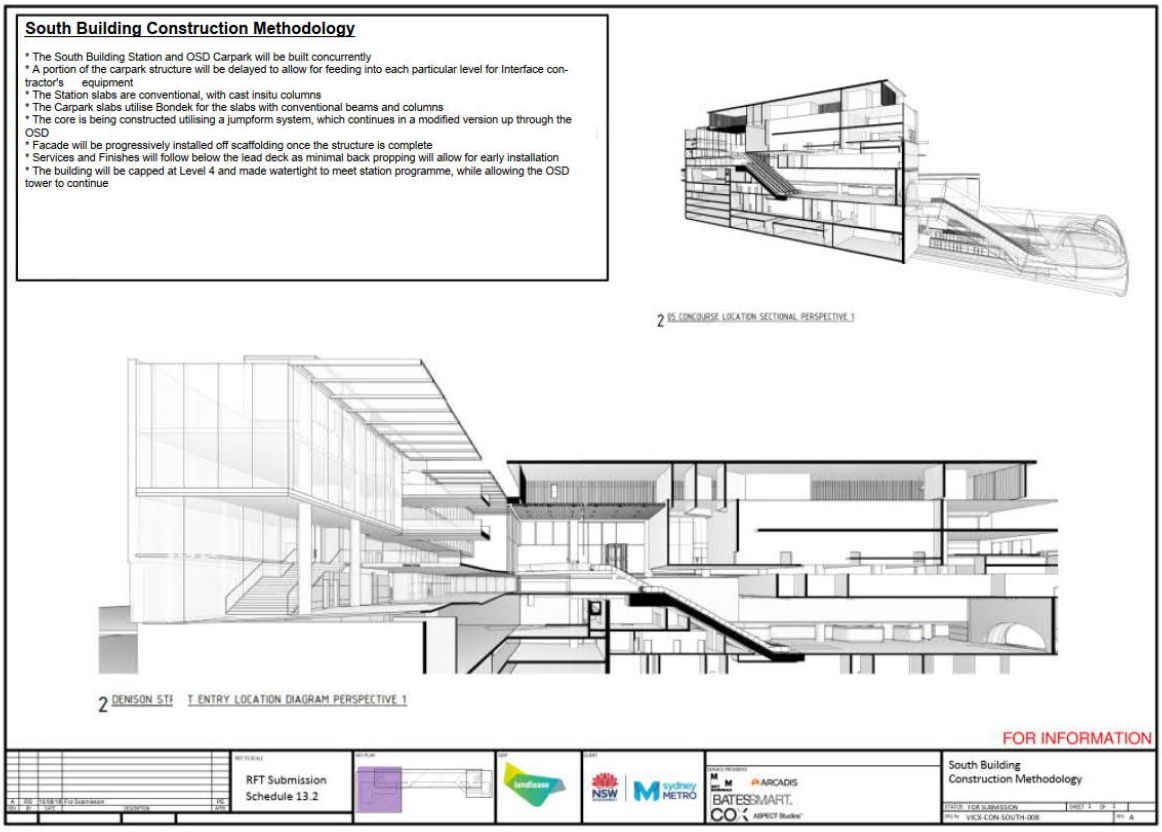
The B1 Loading dock is proposed to be utilised as a concrete pumping zone and waste management area for both the Station and OSD. This will be used in conjunction with the Miller St and Berry St Workzone. The Miller St Workzone will be reduced to the OSD footprint on commencement of the On-Site Detention Tank works in Miller St (following stripping of B1 Level).

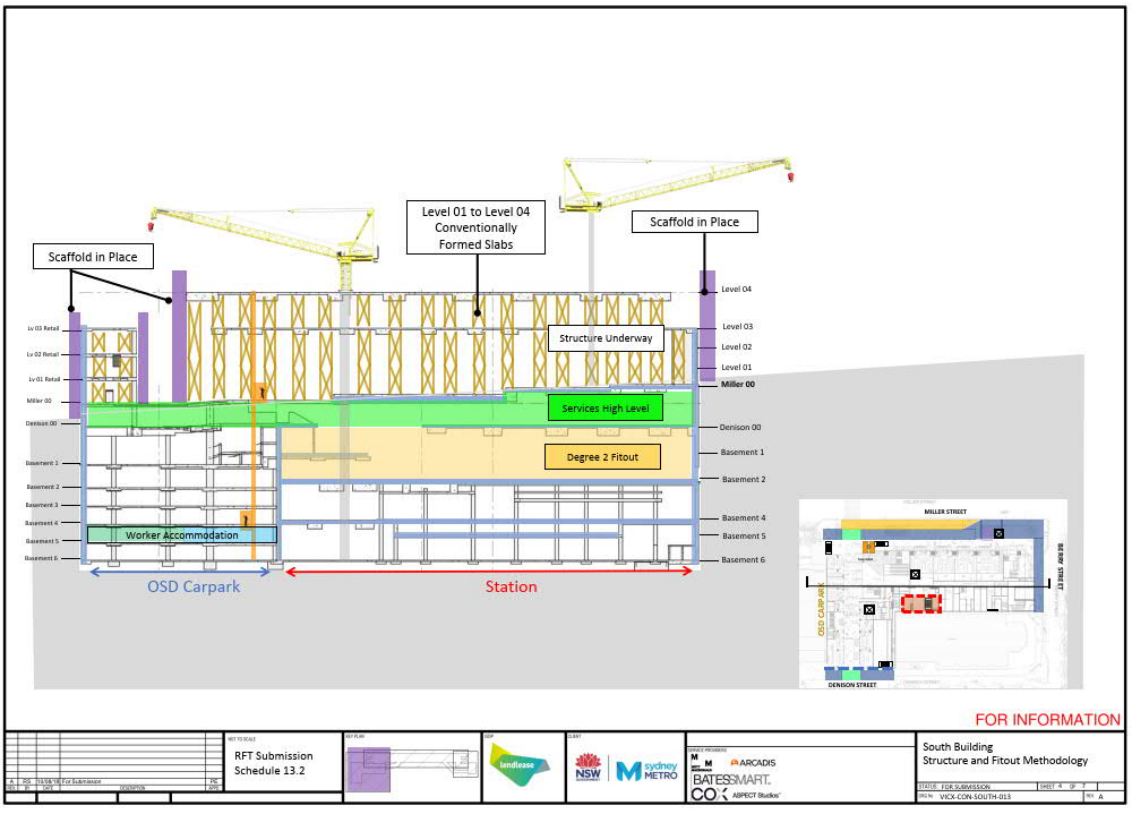


9.3 Construction Sequence and Methodology

The fundamental strategy for the basement structure construction will be to maintain a consistent pour sequence, using insitu and prefabricated elements to achieve continuity for both subcontractor and materials handling resources.

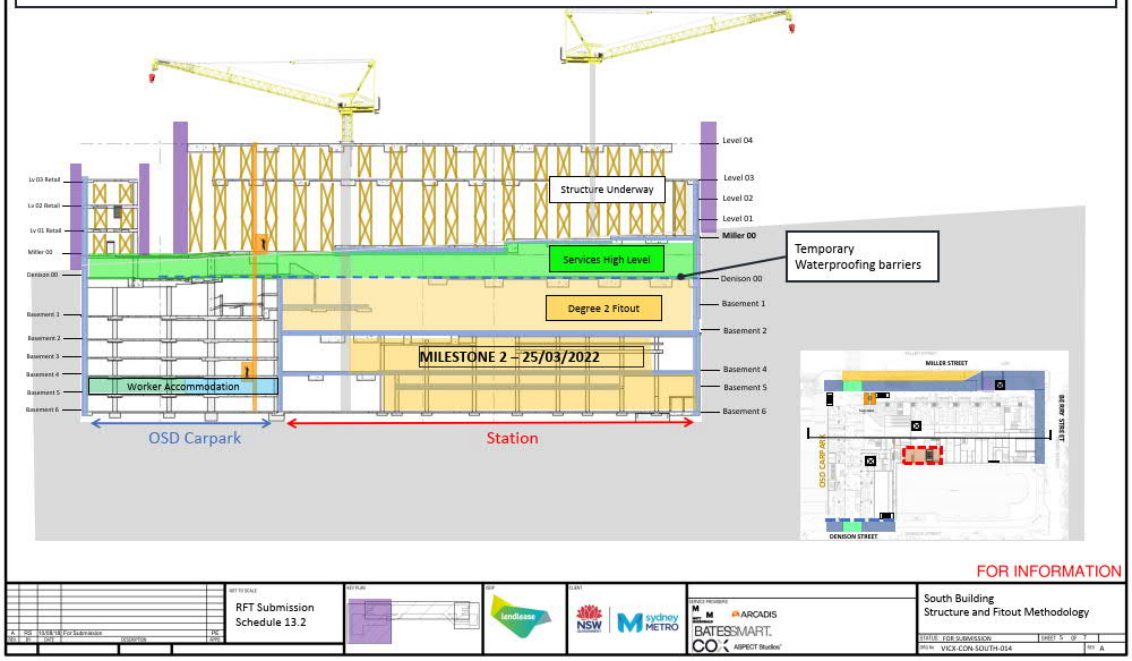
The following diagrams show the proposed structure methodology, overall sequence, core delineation, temporary services and materials handling / personnel movement strategy for the basement and podium floors. As of April 2022, the Carpark and Station Structure is sitting at Level B2, hence staging has been shown for works above L00 only.





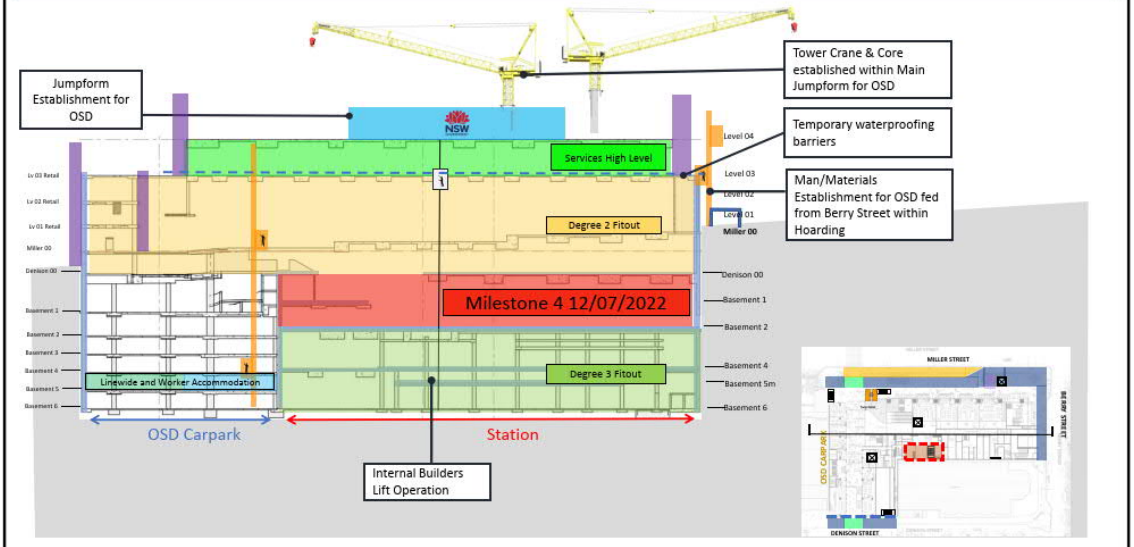
Milestone 2

- LW Contractors will enter/access station site as per all other contractors onsite. They will be inducted which provides them access for all station areas. Deliveries will be scheduled as per the site protocols of the North/South.
- Vertical movements for materials handling will be provided either via a man/materials hoist or builders lift, crane or gantry crane. Personnel will either use man/materials hoist or builders lift
- For major plant equipment within this building, equipment to be lowered into position prior to Milestone handover.
- LW contractor transformers will be dropped into position during the structure phase.
- LW Accommodation is located in B5 OSD Carpark.



Milestone 4 (Includes Adit)

- Interface Contractors will enter/access site as per all other station contractors onsite. They will be inducted for access to all station areas. Deliveries will be scheduled as per the site protocols and deliveries made to the North/South.
- Vertical movements for materials handling will be provided either via a man/materials hoist or builders lift, crane or gantry crane. Personnel will either use man/materials hoist or builders lift
- For major plant equipment within this building, equipment to be dropped into position prior to Milestone handover.
- Interface Contractor accommodation is located in B5 OSD Carpark.



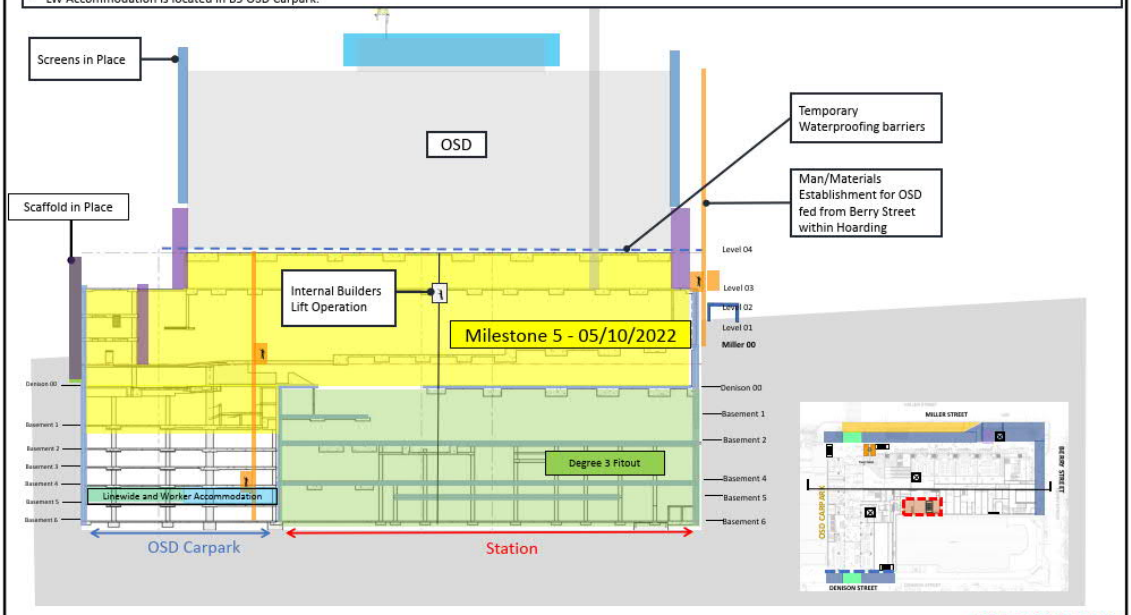
FOR INFORMATION

RFT Submission Schedule 13.2

South Building Structure and Fitout Methodology

Milestone 5

- LW Contractors will enter/access site as per all other contractors onsite. They will be inducted which provides them access for all areas. Deliveries will be scheduled as per the site protocols and deliveries made to the North/South as required. Vertical movements for materials handling will be provided either via a man/materials hoist or builders lift, crane or gantry crane. Personnel will either use man/materials hoist or builders lift
- LW Accommodation is located in B5 OSD Carpark.



FOR INFORMATION

RFT Submission Schedule 13.2

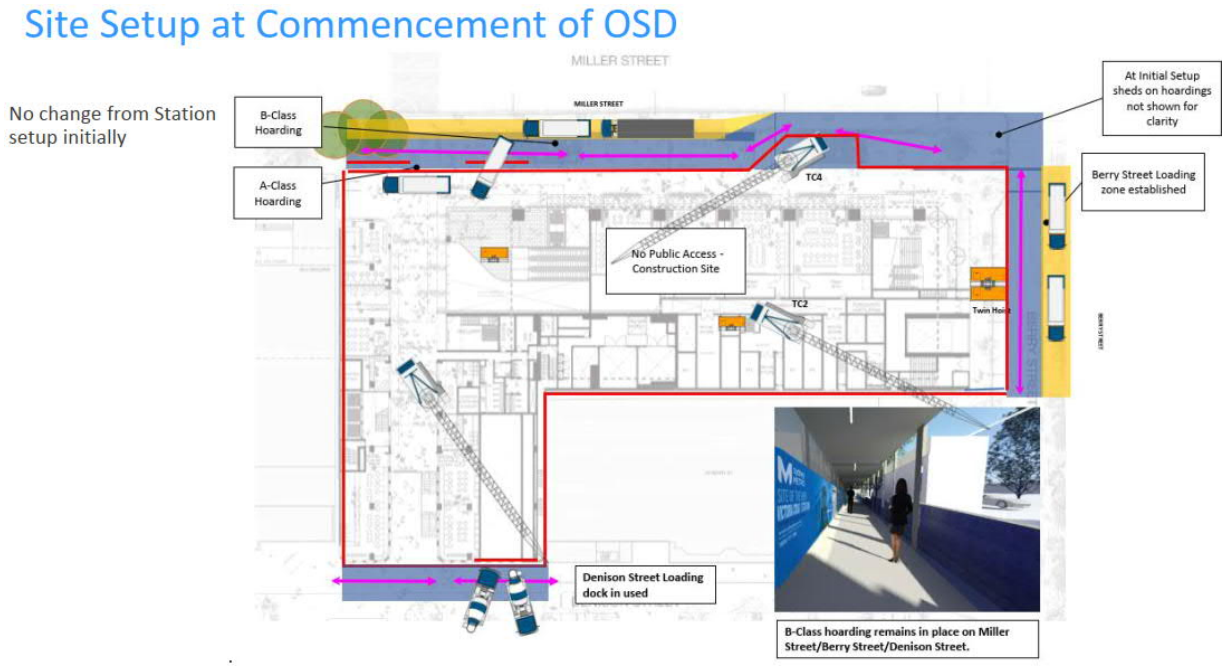
South Building Structure and Fitout Methodology

10 OVER STATION DEVELOPMENT

Site establishment and materials handling to the OSD as applicable to the interfaces with the Station development are detailed in the following diagrams.

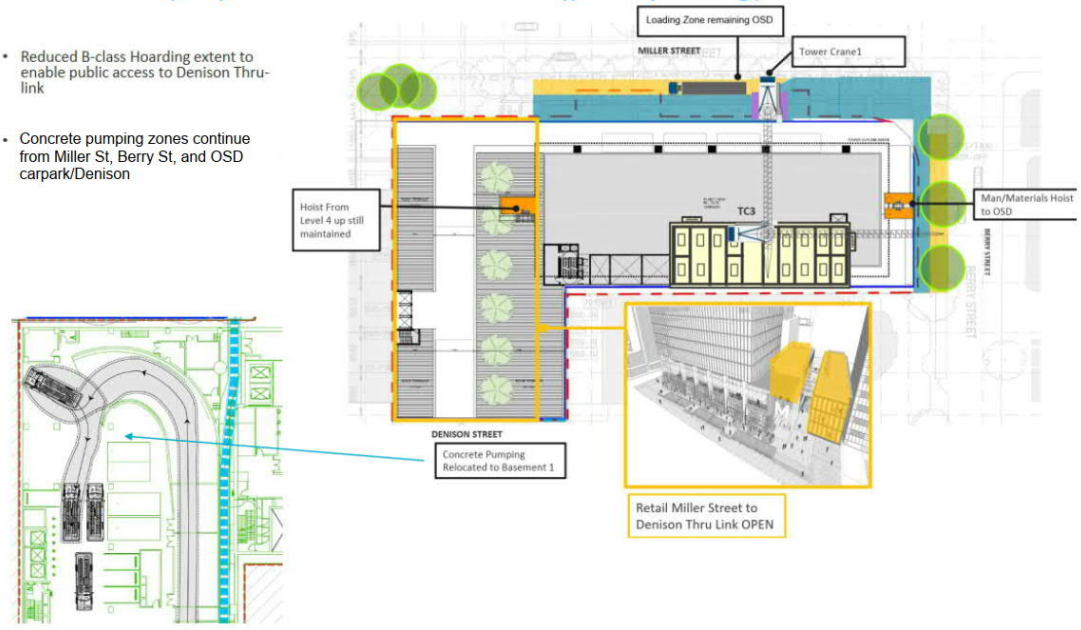
The diagrams are also inclusive of positioning of construction zones, craneage, hoarding type and locations, personnel hoists, site accommodation and site entry locations.

In addition, the diagrams detail the planned status of the Over Station Development construction works at time of Station completion and how post Station opening OSD construction works will be segregated until OSD completion.



Site Setup upon Station handover (pre opening)

- Reduced B-class Hoarding extent to enable public access to Denison Thru-link
- Concrete pumping zones continue from Miller St, Berry St, and OSD carpark/Denison



Site Setup upon Station opening

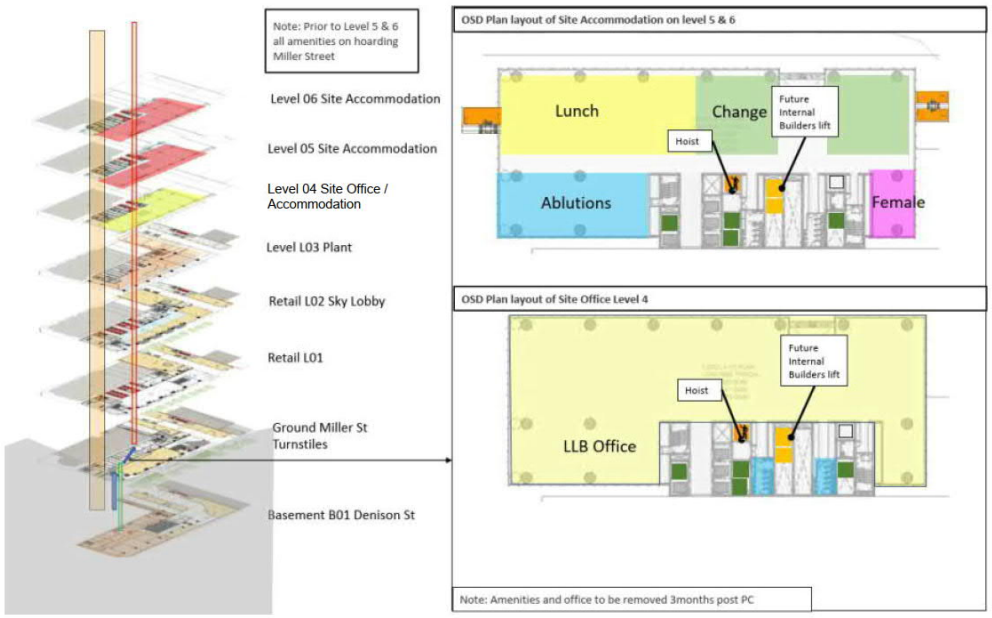
Reduced B-class Hoarding extent to enable public access to Station

Access to B1 Carpark maintained for deliveries

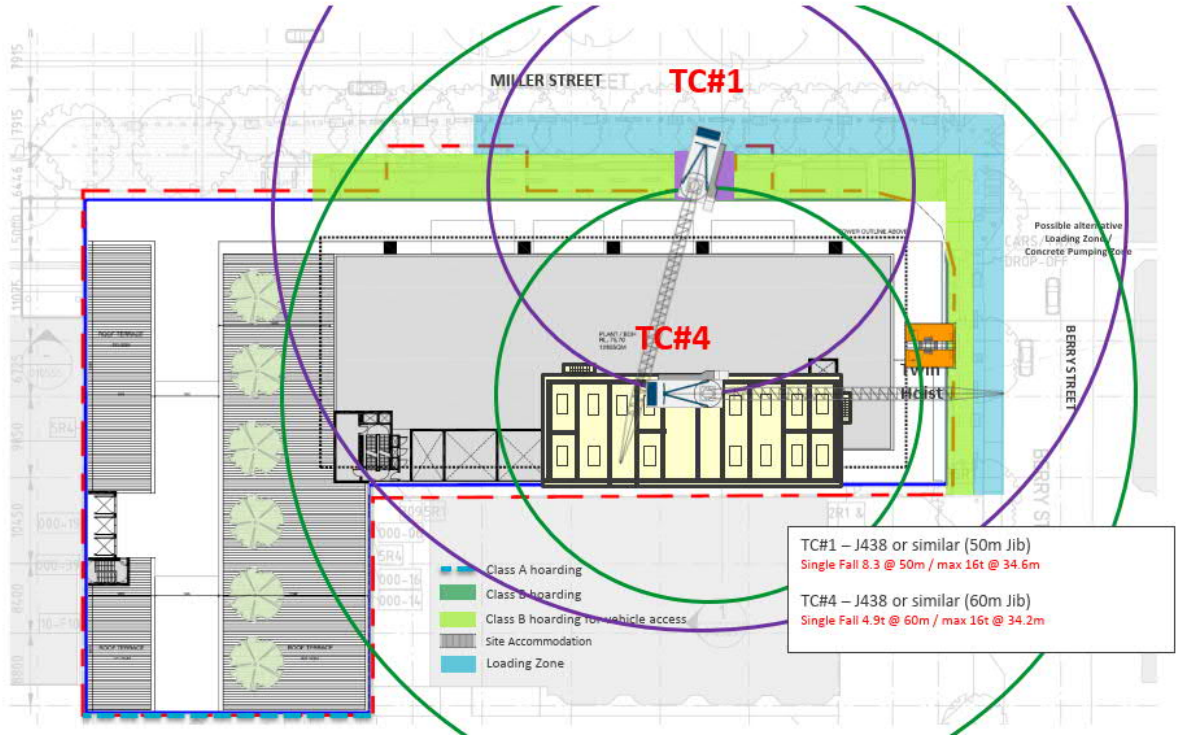
Temp fencing/Hoarding for separation of OSD works from handed over Station

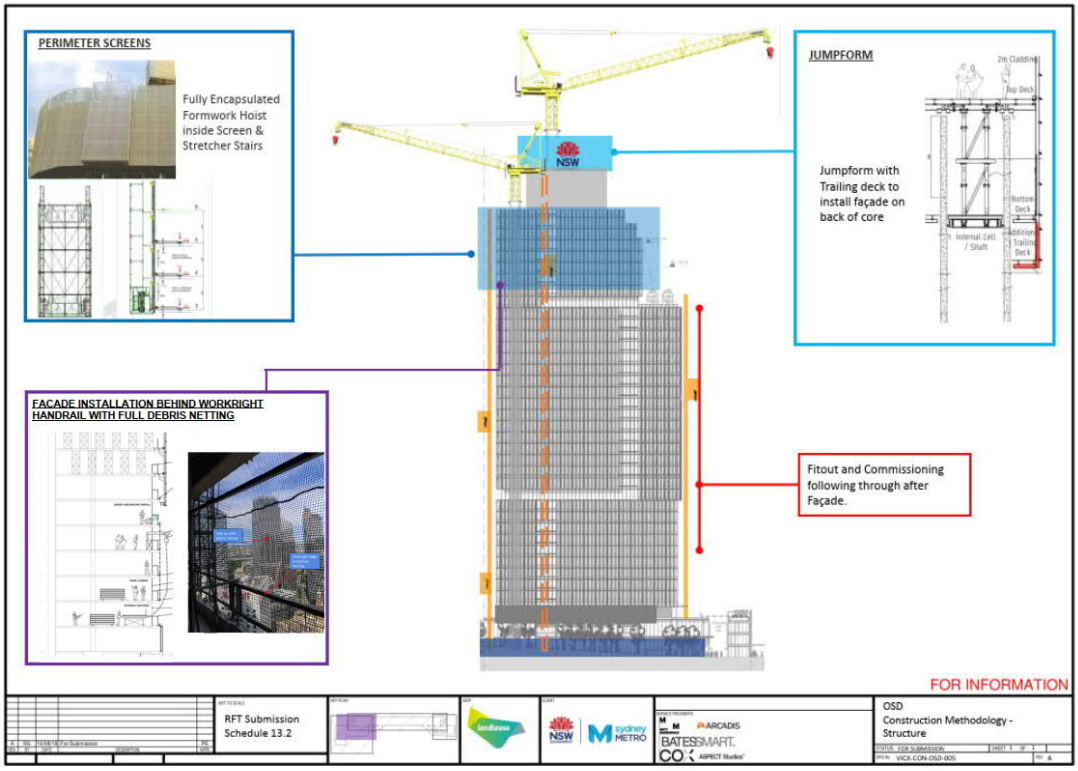
Concrete pumping zones continue from Miller St, Berry St, and OSD carpark

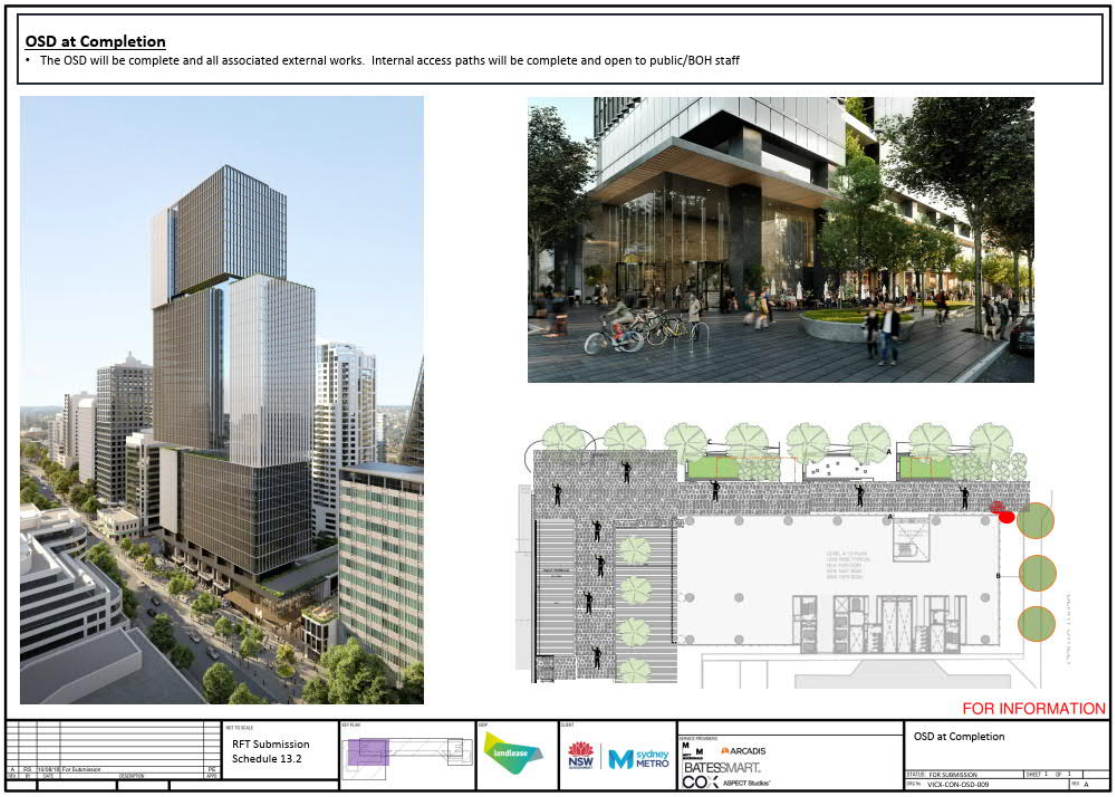
Site Accommodation – Overview & Access



Materials Handling – Tower Cranes




PERIMETER SCREENS
Fully Encapsulated Formwork Hoist inside Screen & Stretcher Stairs
JUMPFORM
Jumpform with Trailing deck to install façade on back of core
FACADE INSTALLATION BEHIND WORKRIGHT HANDRAIL WITH FULL DEBRIS NETTING
Fitout and Commissioning following through after Façade.
FOR INFORMATION
RFT Submission Schedule 13.2
OSD Construction Methodology - Structure


OSD at Completion
• The OSD will be complete and all associated external works. Internal access paths will be complete and open to public/BOH staff
FOR INFORMATION
RFT Submission Schedule 13.2
OSD at Completion

11 STATION SERVICES

The services scope provided within the Victoria Cross station include both services required for the station operation as well as the integration of systems provided by Line-Wide Contractor's (LWC), required for the overall Metro line. The Line-Wide services which are supported in the Victoria Cross Station include:

- Electronic Ticketing;
- Station Control Systems Equipment and Cabling;
- BMCS;
- Overhead Wiring and Traction Supply;
- Bulk Supply of HV Equipment and Cabling;
- Tunnel Ventilation and Track Equipment;
- Platform Screen Doors;
- Radio Equipment and Cabling; and
- Signalling System.

Lendlease acknowledges that there will be extensive interface with contractors appointed by Sydney Metro, to undertake the line wide rail works. This will provide the resources needed to integrate the station systems with the line wide systems.

11.1 Integrated Services Overview

Lendlease proposes that a Sydney Metro Interface Integration Team (IIT) be formed early in the Project's lifecycle, led by Sydney Metro representatives, to ensure that all interfaces for the overall Metro Project delivery are coordinated with their various contractors.

Their primary focus is to ensure management of each interface is agreed and delegated to the most appropriate entity. It will consist of key stakeholders that have the ability and authority to make decisions, assign and delegate actions, and drive accountability. Lendlease will be a member of this team, represented by the Interface Manager, calling upon other members of the project team, as required, to manage tasks.

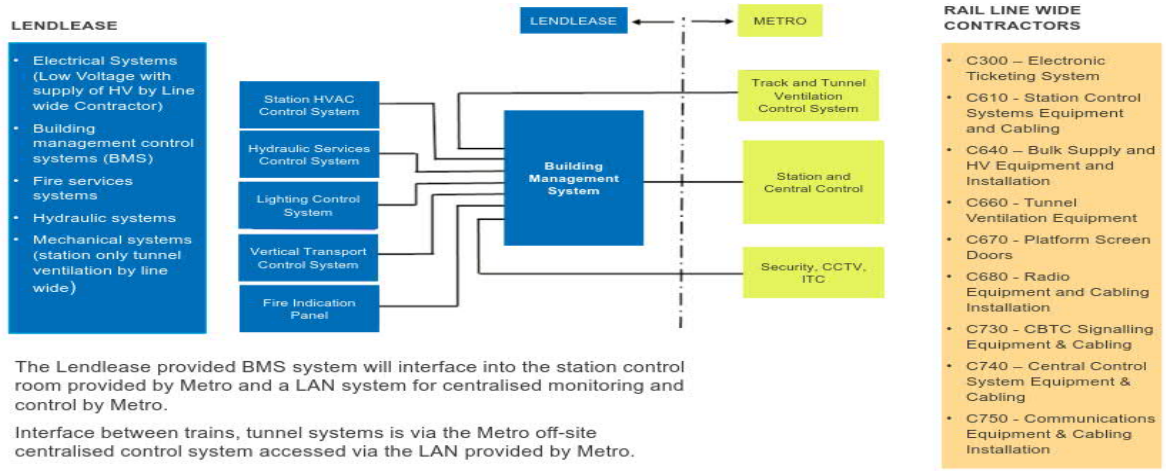
This team will principally ensure that identification, analysis, resolution and incorporation of interfaces occur throughout the project. These are internal and external, functional and physical orientated interfaces particularly with key parties where considerations include, but not limited to, the following:

- Concept and reference designs outcomes, where significant interface definition should have already occurred;
- Detailed requirements for specifications, scopes of work, and overall documentation;
- Identification of roles and responsibility associated with the scope and documentation;
- Environment within which the product or service will function;
- Internal project interfaces around program, area handover and delivery; and
- Accreditation responsibilities for undertaking and assuring the works.

Ownership of each interface item will be assigned to the most appropriate discipline, usually the one that requires information or incoming data to achieve a function or design element by interface with another party. Additionally, the identified interfaces and associated interface requirements will be captured and managed in the relevant design documentation.

To address project specific interfaces, a separate Victoria Cross Interface Team will similarly be formed. They will coordinate separate stakeholder engagement activities with the Lend Lease team and ensure the design and or construction teams' responsibilities for addressing the various interfaces remain on track. They will also be responsible for coordinating the access for Line-Wide Contractor into the site as the Milestones area is achieved.

The following diagram outlines the demarcation of the scope of works associated with the services within Victoria Cross station.



The demarcation of scope and the management of the interfaces between Line-Wide Contractor and other contractors are defined in more detail in the Interface Requirement Specifications (IRS's) which have been have been developed specifically for Victoria Cross Station. These will be developed further and agreed with the Line-Wide Contractor's as they are appointed by Sydney Metro.

11.2 Station Services

11.2.1 *Station Box Services Mechanical and Electrical Services Fit-out*

Given the complexity and number of interfaces that exist within the station boxes, Lendlease will expedite the station services teams' presence soon after site establishment to support and coordinate with the civil and structures teams to ensure penetrations, fire collars, pipes and conduits in the base slabs and walls are positioned in the correct locations prior to pouring.

Lendlease understands that several interfaces exist within the Victoria Cross Station and will develop a robust process to manage these at a construction level to ensure all stakeholders' requirements are taken into consideration for access and area handover.

Lendlease acknowledge the Metro Handover schedule and degree of completion requirements, for interim handover of areas to the Line-Wide Contractor for installation of associated M&E.

11.2.2 *Methodology*

After the Metro Station structure is substantially complete, plant rooms and corridor walls are constructed, the commencement of the first fix M&E activities can commence. Rooms within the Metro Station are either required for Line-Wide services or for station services.

The intention is to expedite the fit-out of certain lift shafts to bring the permanent lifts into service (builder's lifts) as quickly as possible. This reduces the requirement to maintain man and materials hoists within the station footprint and allow the fit-out to progress more efficiently. It will also allow construction penetrations to be closed-up to make the station watertight. Prior to the lifts coming online, our team will utilise the permanent access hatches and permanent voids left in the slabs to get materials and equipment to the various work faces.

Lendlease's M&E construction methodology will be split between the back-of-house (BOH) and front-of-house (FOH) areas. BOH areas are predominantly plant room areas and the associated reticulation paths between them. FOH areas are the platforms and concourse areas. Delineating the two areas, highlights the importance of prioritising the construction of the BOH areas as opposed to the FOH areas as the construction and commissioning program will ultimately be driven by the completion of the BOH areas. The M&E construction sequence can be broadly summarised as follows:

- Main Switch rooms and Plant rooms.
- High-level services such as drainage and large ductwork and cable ladder.
- Chilled water and hydraulic water services brackets and pipework.
- Hauling main electrical supplies.
- Electrical brackets and cable trays, riser fit-out.
- Sprinkler first fix.
- Equipment room installation and fit-out.
- Cable hauling.
- Field device installation and cable terminations.
- Lift and escalator installation and fit-out.
- Construction verification and testing – mechanical and electrical (hydrostatic and cable testing, quality assurance handover).

Once the rooms have been completed, the installation of high-level equipment such as ductwork, brackets, the cable containment and luminaires will begin. After this, large and heavy equipment such as air handling units, fans and LV switchboards will be loaded into the structure through permanent access hatches in the floor slabs and positioned in the rooms. Cable pulling will start as soon as there is a complete cable containment route. It is therefore important that the cable risers and reticulation between plant rooms are completed to enable cable pulling to be efficient and negate the need to leave partially pulled cables on drums. Large sub-mains will be pulled first and then according to size or position on the cable containment.

The following rooms have been identified as critical areas for completion:

- The high-voltage (HV) transformer and switchboard rooms;
- Low-voltage (LV) rooms;
- Communications/signalling rooms;
- Tunnel ventilation fan rooms; and
- Completion of these rooms enables the stations M&E teams as well as the Line-Wide Contractors' access to commence their fit-out.

11.2.3 *High voltage switch rooms, transformer enclosures, communications and signal rooms*

The Line-Wide Contractors will carry out all the services fit-out works associated with the HV switch rooms, transformer rooms, communication and signalling rooms.

Room cleanliness and early completion of the degree 2 activities will be undertaken by Lendlease, to enable room handover to Line-Wide Contractors for equipment installation.

11.2.4 *Mechanical rooms*

Mechanical rooms consist of the chiller plant room and air handling and exhaust fan rooms.

High-level services will be installed first before the equipment is positioned in the room. Access will be through the same permanent access hatches in the floor slabs. Once all ductwork and pipework is completed, installation of lighting and power to the equipment will commence. Mechanical plant room completion will be driven by the completion of the electrical rooms and the power-on dates.

11.2.5 *Other Back-of- House areas*

The team will work closely together to ensure areas such as the Station Control Room, staff and public amenity areas are roughed in and tested prior to walls and ceilings being sheeted. All services through the corridors will be completed and tested before the ceilings are closed-up.

To allow flexibility for the respective M&E disciplines to work across multiple work fronts and in parallel with the station finishes works, elevated work platforms will be utilised instead of fixed scaffolding where possible.

11.2.6 *Front-of-House areas*

Front-of-house areas consist of the station platform and concourse areas, including public circulation spaces. Completion of these areas is not as critical as the BOH areas and will be sequenced with the installation and completion of station finishes, with the same general installation methodology being followed as described earlier. Given the large ceiling spaces in these areas, construction will utilise elevated work platforms instead of fixed scaffolding. This allows flexibility for the respective M&E disciplines to work across multiple work fronts and in parallel with the station finishes works.

11.2.7 *Vertical transport*

Vertical transport equipment for the Station will be Designed, Supplied and Installed (DSI) by a contractor selected by The Principal. Lendlease will be responsible for providing access, a work area and cranage to enable the DSI Contractor to carry out their works.

11.3 Line-Wide Services

Line-Wide Contractors will have access to the site on the nominated Milestone dates to commence the installation of their plant and equipment. Co-ordination of the Line-Wide Contractors access to site, will be developed and agreed prior to the handover dates. Processes and procedures for access, as well as delivery and handling of materials, will be established through the Lend Lease Interface Team.

11.4 Integration of Station and Line-Wide Services

The integration of the STME works with the Line-Wide services will commence during Stage 2 Design, to ensure that all the physical interfaces defined in the IRS's are incorporated into the design. This will ensure that all the provisions have been allowed for prior to construction commencement, facilitating a co-ordinated delivery, commissioning and testing of this services scope.

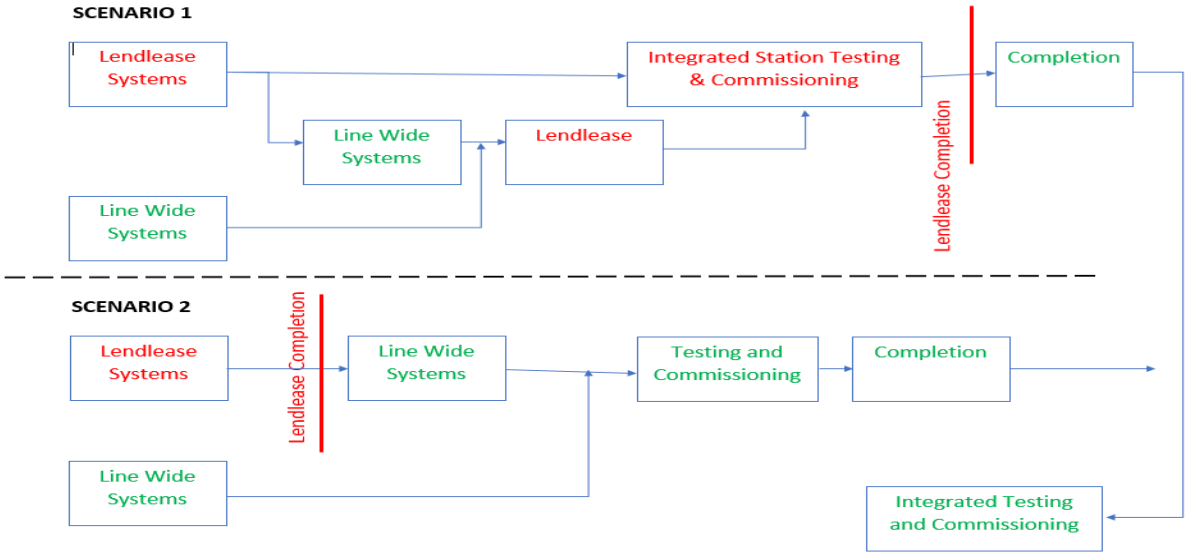
12 STATION COMMISSIONING AND TESTING

12.1 Commissioning and Testing Procedures

Lendlease will adopt a systems completion approach in preparation for STME commissioning for its works. The commissioning process will progress through a set of gates to ensure all necessary process and documentation is completed in a timely manner.

A Commissioning and Testing Plan will be developed for the project to comply with the SWTC Appendix F7 requirements. Co-ordination of the interfaces across the packages and various Line-Wide Contractors will be coordinated through the testing and commissioning process.

The diagram below outlines two typical scenarios of how the integration of the cross-packages is to be developed and the limits to the scope testing and commission performed by Lendlease.



12.2 Systems Testing

For the components of the Project Works which are supplied and installed by Lendlease, once a system has been physically completed and all quality assurance, as-built drawings and testing documentation has been undertaken by the construction teams, the commissioning team will review the documentation and perform site inspections to verify works are complete and commissioning can begin.

After the main electrical equipment, has been commissioned and energised, local electrical, mechanical, hydraulic and fire equipment can be energised. At this point, other trades will begin to commission their respective systems such as water and air distribution systems, fire systems, vertical transport system etc.

Each trade will commission their respective systems as a standalone system, with no external interfaces. Upon successful standalone testing, cross-discipline system interfaces will be tested to ensure functionality i.e. fire interface with smoke fans, plant control.

12.3 Line-Wide Testing

For the component of the Project Works which are supplied and installed by Line-Wide Contractors, these contractors will be responsible for the testing and commissioning of their systems, independent of other systems. Lendlease will work in collaboration with the Line-Wide Contractors to support the testing and commissioning of their systems, as defined in the IRS's.

HV substation scope including all the interconnecting and incoming HV cables which will be completed by the Line-Wide Contractors are of critical importance. These HV sub-stations provide the HV power for the Metro Station and all the stations systems. As such, Lendlease will be dependent on Line-Wide Contractor's completion, commissioning and energisation of their HV sub-stations, to enable the commencement of commissioning of STME Metro Station Systems. Once HV sub-stations are complete, LV power will be available for downstream commissioning of SMTE services to commence.

12.4 Integration Systems Testing

Upon successful interface testing of both the Line-Wide Contractor and local STME systems, the respective systems will be integrated to confirm successful operations of both STME's and Line-Wide systems together. i.e. fire interface with smoke fans, plant control.

We note, further witness and performance testing will take place post completion of Integration Testing above, prior to placing all Metro Systems into operation service.

The interface with the Line-Wide Contractors will be managed by the Interface Manager and the projects commissioning team.

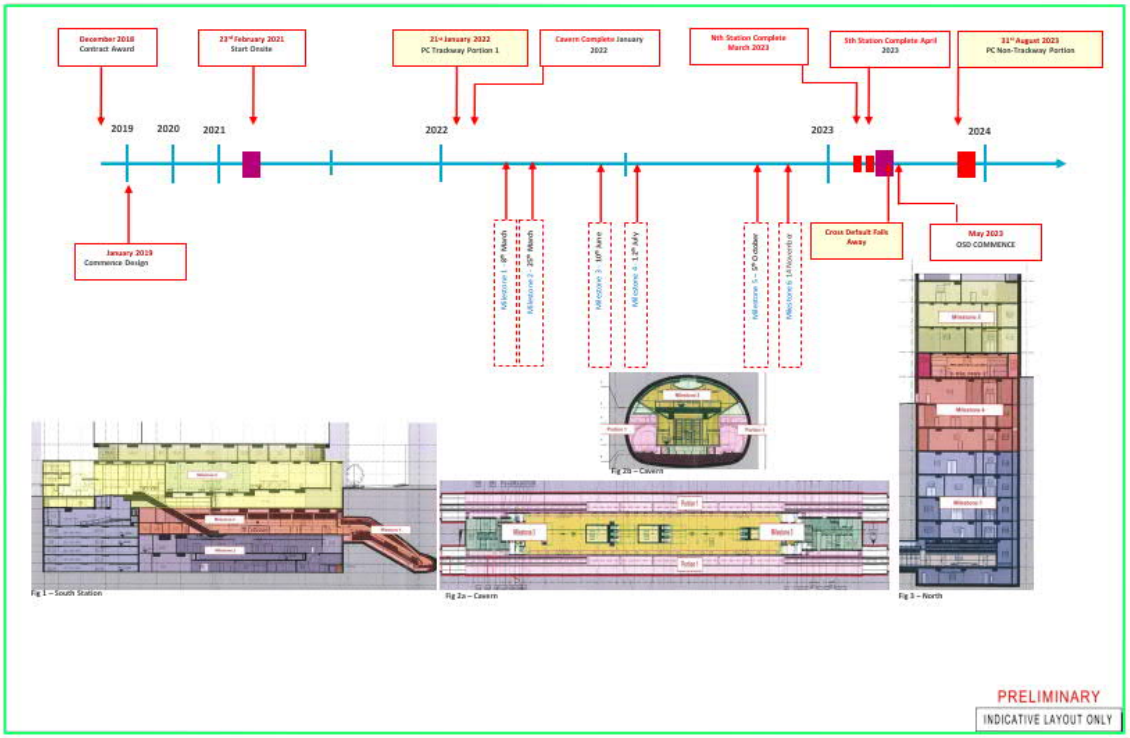
13 STATION MILESTONES AND PORTIONS

13.1 Overview

Lendlease acknowledge the Metro Handover schedule and degree of completion requirements for the Milestone handover of areas to the Line-Wide Contractor for installation of Line-Wide services. The Lendlease delivery programme for Victoria Cross Station, has incorporated the multiple Milestone and Portion dates required to be met for the integration of other systems and the ultimate handover of the station.

Milestones have been established based on the areas required, to provide Line-Wide Contractor's access to rooms for the commencement of installation of their plant and equipment. Certainty of handover to Line-Wide Contractor's is imperative to ensure Sydney Metro can deliver on the State's promise of Metro completion by 2024.

Station potion handover are detailed in the following diagram below. Note that dates are indicative only and may be amended and updated under the Head Contract terms.



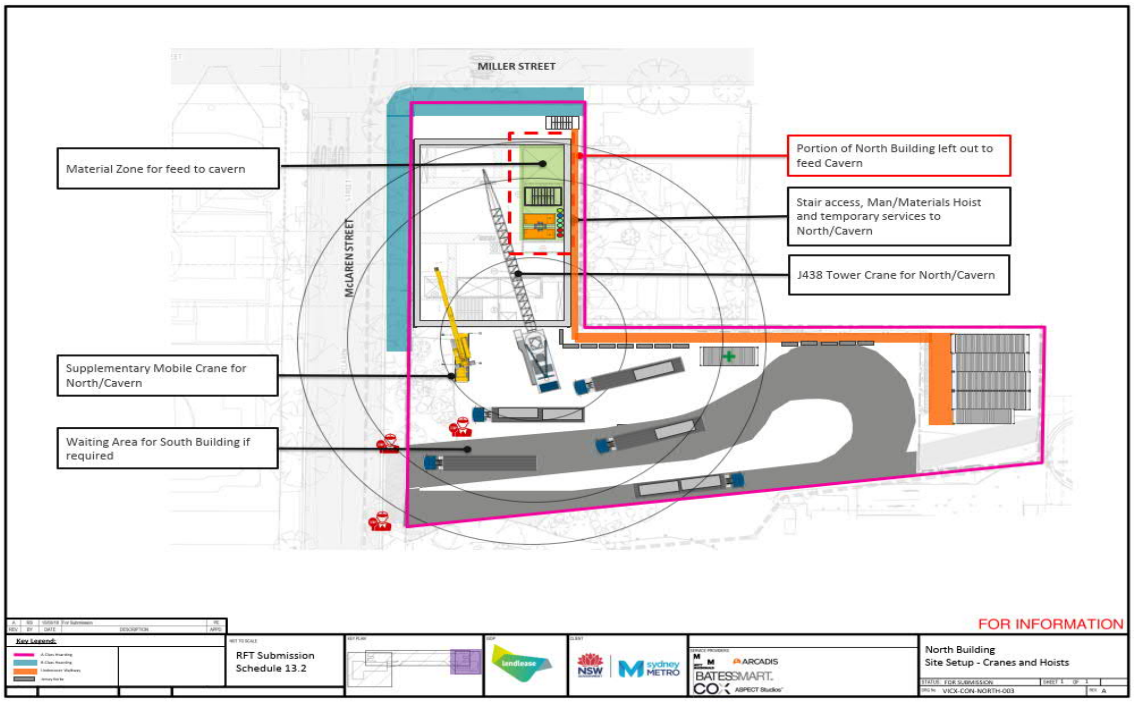
13.2 Station Milestones

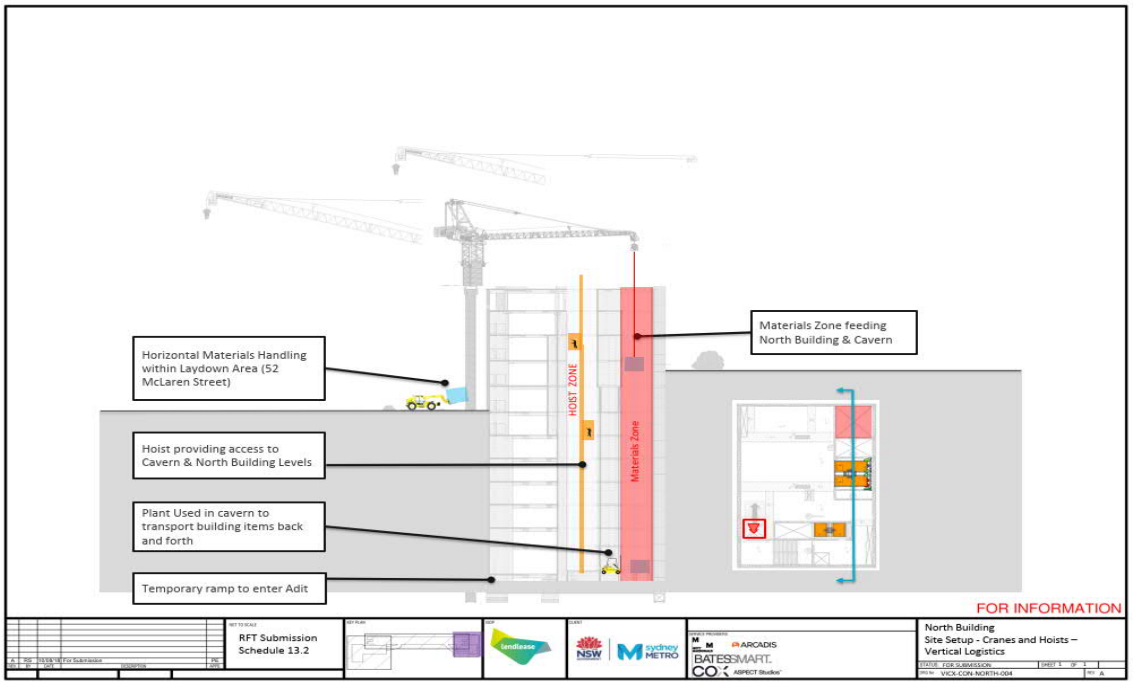
Lendlease will implement a works assurance regime which will involve Line-Wide Contractor progressive validation, to ensure acceptance of these areas upon handover. This will include allowing progressive inspections of the areas as defined by the SWTC. Each Line-Wide Contractor will have a Lendlease resource allocated to managing the needs of the Line-Wide Contractor and acceptance process. Project finalisation planning starts at the beginning of the project to establish the expectations for completion and the assurance that standards will be met.

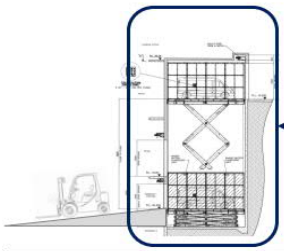
14 MATERIALS HANDLING AND CRANAGE

14.1 North Site Materials Handling and Hoist Strategy

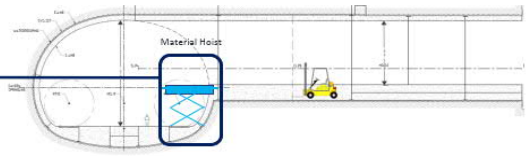
To determine the type, size, position and quantity of cranes and hoists required for the most efficient material handling solution for the Northern Site, a detailed cranage and hoist analysis has been undertaken. The selected strategy is documented on the following diagrams.



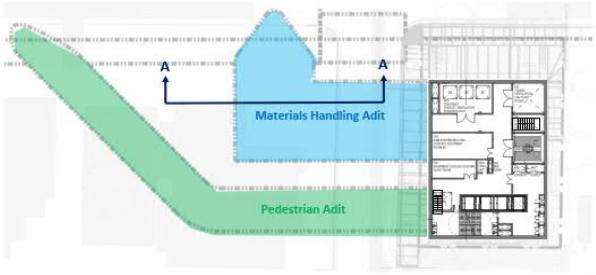




Materials hoist located at the end of the adit to allow for material to be raised/lowered between Adit & Cavern Floor



Section A-A - Service Adit Cross Section Plant and Material Access



Plan of B9 North Building: Plant/Material segregation is maintained by separating materials and plant movement as highlighted.

FOR INFORMATION

RFT Submission
Schedule 13.2

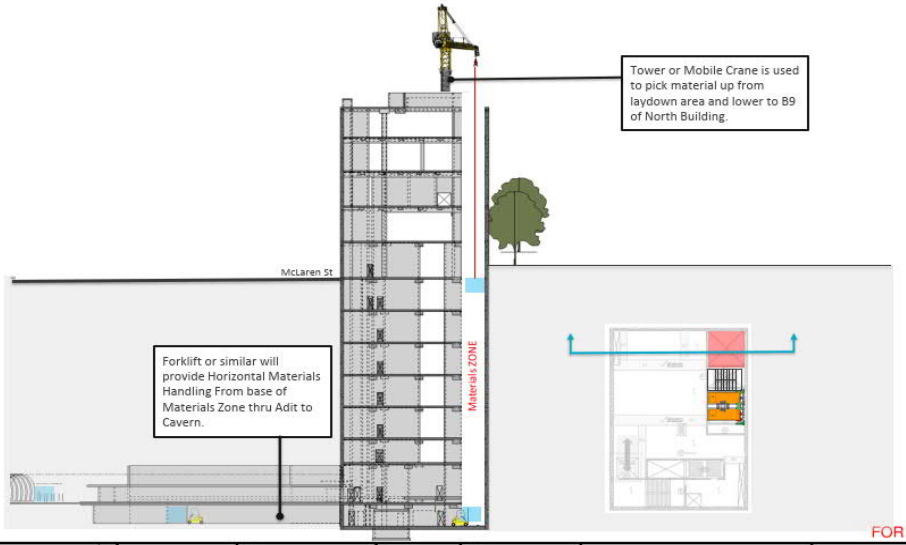
Cavern
Vertical & Horizontal Material
Handling to Cavern

North Building Materials Feed To Cavern

The pathway of feeding the cavern is as follows:

- Materials are delivered to the lay down area next to the north building and lifted with the crane, down the materials zone to B9 of the north building.
- A forklift will traverse the item through the adit into the opening into the cavern.
- A materials hoits will lower the element to the cavern base, where a second forklift will pick the item up and traverse it to the required install position within the cavern.

A similar area is provided on the South Building to feed the cavern from the south.



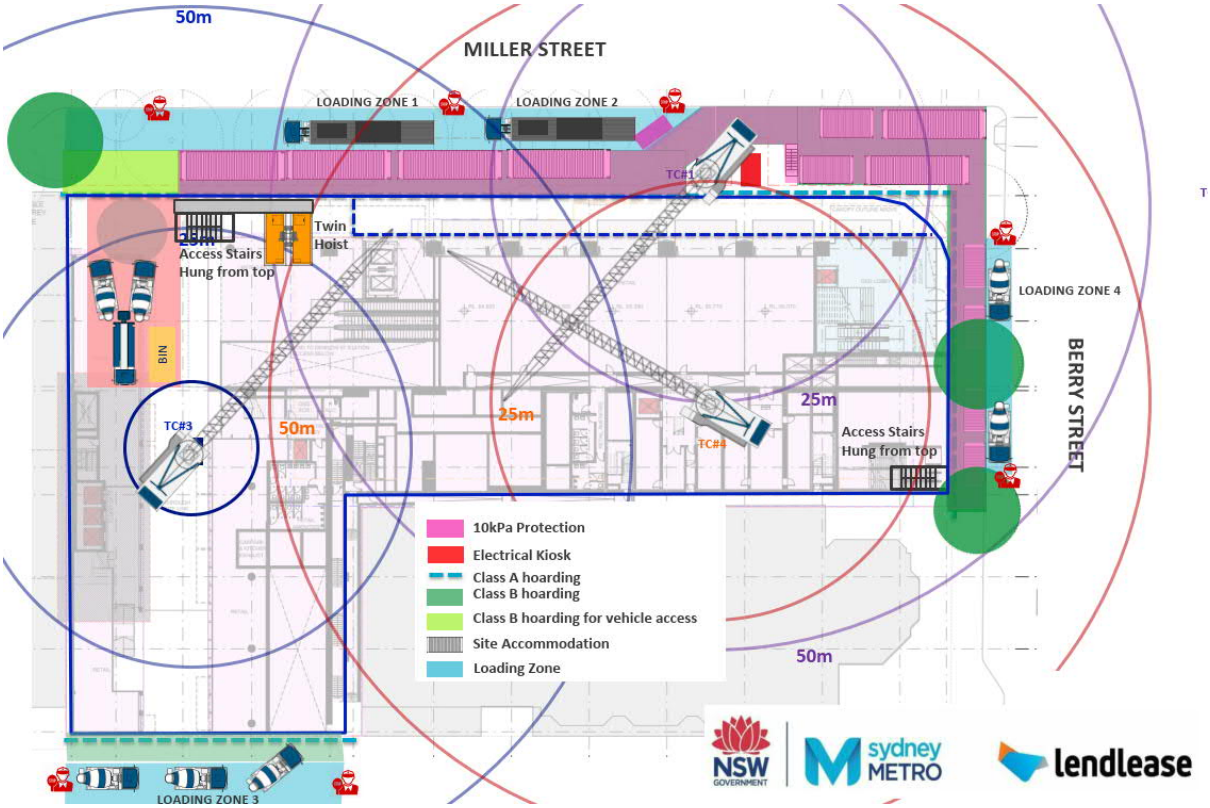
FOR INFORMATION

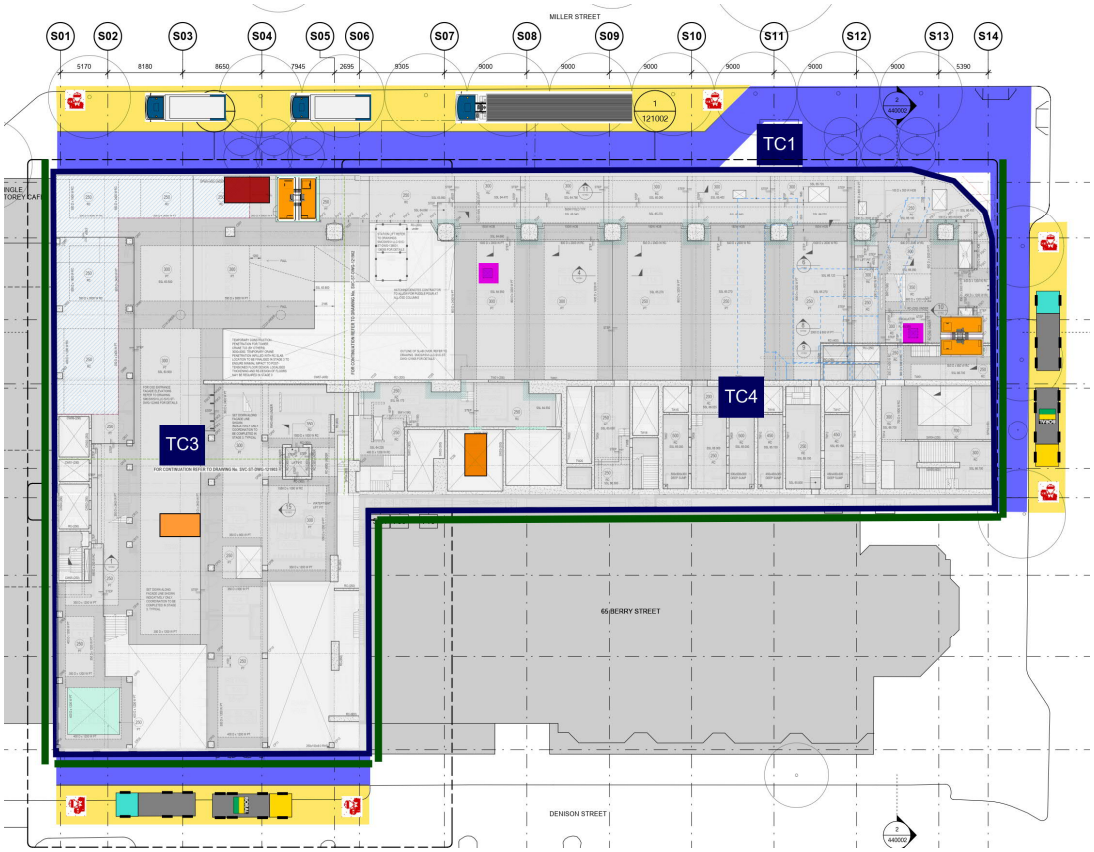
RFT Submission
Schedule 13.2

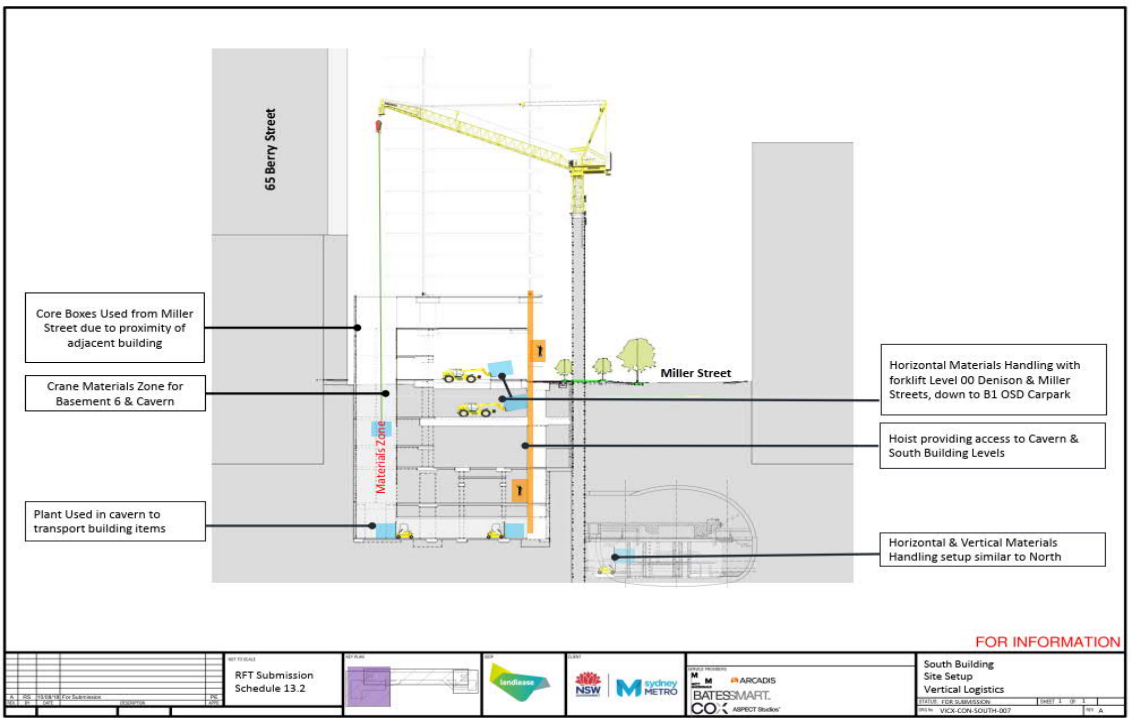
Cavern
Vertical & Horizontal Materials
Handling to Cavern

14.2 South Site Materials Handling and Hoist Strategy

To determine the type, size, position and quantity of cranes and hoists required for the most efficient material handling solution for the Southern Site, a detailed cranage and hoist analysis has been undertaken. An extract of the selected strategy is documented on the following diagrams.




MILLER STREET
S01
S02
S03
S04
S05
S06
S07
S08
S09
S10
S11
S12
S13
S14
TC1
TC3
TC4
65 BERRY STREET
DENISON STREET


65 Berry Street
Core Boxes Used from Miller Street due to proximity of adjacent building
Crane Materials Zone for Basement 6 & Cavern
Plant Used in cavern to transport building items
Materials Zone
Miller Street
Horizontal Materials Handling with forklift Level 00 Denison & Miller Streets, down to B1 OSD Carpark
Hoist providing access to Cavern & South Building Levels
Horizontal & Vertical Materials Handling setup similar to North
FOR INFORMATION
RFT Submission
Schedule 13.2
lendlease
NSW
sydney METRO
ARCADIS
BATESSMART.
COX ARCHITECTURE
South Building
Site Setup
Vertical Logistics

15 WASTE MANAGEMENT

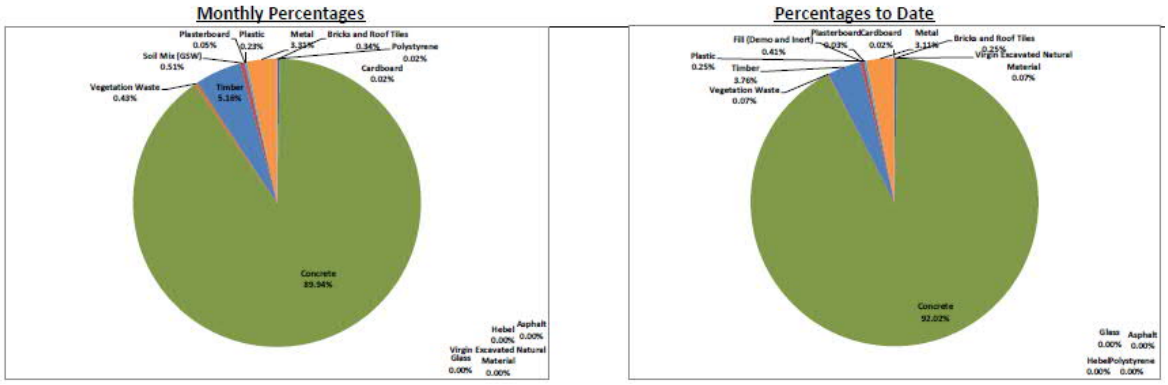
Lendlease will ensure our supply chain is responsible and accountable for maintaining a clean, clear and safe working environment. Rubbish bins will be provided to all work areas and will be regularly removed to the central skip bin location by the subcontractors for collection and transport from the site to the waste recycle facility.

Bins will be moved via the man and materials hoists or by the crane, dependant on the where they are being loaded from, and the waste material being removed from site. Crane lifted steel bins will be used to service the top floors where structure trades are working, and large Otto bins will service the lower levels where fit-out and service trades are working. The site skips will be centrally located at loading dock zones to ensure an easier pick up by our bin contractor.

Rubbish will be separated at an approved waste management centre. Auditable records will be kept of quantities of all materials both recycled and disposed to landfill. Records will be monitored to ensure Lendlease internal recycling targets are achieved. This information will be collected and reported in compliance with our Environmental Management Plan and its Waste Management and Recycling Sub-Plan over the duration of the project. A sample summary is shown on the following page.

Percentage Waste Recycled to date =	2686.03 Tonnes / 2707.35 Tonnes	99.21%

Waste Fraction	Total Quantity Generated		Total Recycled		Total Disposed off		Recovery Rate
Heavy	411.11	Tonnes	411.11	Tonnes	0.00	Tonnes	100.00%
Light	29.67	Tonnes	28.19	Tonnes	1.49	Tonnes	94.99%
TOTAL	440.78	Tonnes	439.29	Tonnes	1.49	Tonnes	99.66%



To ensure the Victoria Cross Station meets its sustainability targets, waste management reports will show monthly and cumulative performance.

16 TEMPORARY WORKS

A comprehensive procedure will be followed for all temporary works (TW) required for the VICX-ISD project. Items of TW will include:

- B Class Hoardings along site perimeter;
- Class B Hoarding Site Access Steel Gantries;
- Trafficable steel access platform to South Shaft excavation;
- Temporary cavern services (incl. ventilation);
- Crane footings, climbing pockets in core, offset grillages and ties; and
- Man and materials hoists.

These items will be carefully planned, fully engineered, certified and EH&S compliant.

Lendlease follows a rigorous TW procedure that encompasses

1. Identification and risk analysis – responsible engineers identify TW items, assess the relevant risks and record on appropriate registers
2. Documentation and records – responsible engineers will maintain all pertinent records for TW items including the TW design, drawings and design certification, risk assessments covering construction processes, Proof Engineer design check certificates where required, designer inspection and compliance certificate and records releasing TW Hold Points (Permit to Load, Proceed, Unload, etc.)
3. Temporary works design – as the level of risk assigned to each piece of identified TW increases, so too does the level independence required of the engineer providing certification
4. Safety in design – regardless of the complexity of the TW, the TW designer is responsible for developing a safe design in accordance with SID legislation
5. Temporary works design brief – The responsible engineer must ensure that TW design briefs, detailing the specific requirements of each item of TW are written in sufficient time to allow design, procurement of materials and erection of the TW. For TW involving a number of elements designed by different parties the engineer must ensure the designs are coordinated. The engineer must work closely with the permanent works designer where the TW may affect the permanent works.

   Type of information that might be required for the design brief includes:

   - Appropriate drawings of the permanent works and clauses from the specification for the permanent works
   - Statement of any requirement to design the temporary works in accordance with a particular standard or guidance document
   - Information on all residual risk associated with the design of the permanent works
   - Program for the construction of the permanent works
   - Program for the various phases of the design, design check, any external approvals, and procurement and erection of the temporary works
   - The timing for the removal of the temporary works in relation to the ability of the permanent works to be self-supporting

- Any requirements for access on to, under, or around the permanent works
- Requirements for access for erection, maintenance, use and dismantling of the temporary works and for other site activities
- Environmental and site investigation data and reports
- Loads that may be induced in the temporary works by permanent works that have been completed
- Any limitations on the position of loads from temporary works over underground services or adjacent to excavations or retaining walls forming part of the permanent works
- Proposals for the protection of the temporary works, including its foundations, against disturbance or impact
- Details of obstructions that might preclude or influence the position of the temporary works.
- Preferred solution / materials available.

The Design Brief will also detail what deliverables are required.

1. Selection of temporary works designer – Lendlease maintains a list of approved temporary works designers. The selection of a suitable designer is directly related to the risks associated with the TW. A check will also be done to ensure that the proposed designer has the resources available to complete the work in accordance with the program before they are appointed.

   Level of temporary works design check required – the level of checking the independence is as follows:

   - Medium risk – checker may be from the design team. The checker must be a different person to the designer but may be another engineer in the same design team supervised by the same manager or it may be the design team leader.
   - High Risk – checker from a different design team. The checker may be from the same organisation but not from the same design team i.e. not managed by the same person as the designer or the designer's direct manager
   - Very High Risk – Independent Third Party Engineer. These are works for which a full Third Party Engineering check if deemed necessary must be carried out by a separate independent organisation.

6. Loading of temporary works – prior to loading all Hold Points will be signed off, all method statements communicated and understood, all ground and site conditions confirmed as being within the design assumptions and all inspections and certifications done.
7. Inspection and maintenance of temporary works – these will be carried in accordance with Statutory requirements, service life, risk assessment classification, adverse weather conditions and any other conditions specified by the TW designer.
8. Dismantling of temporary works – the responsible engineer will ensure that prior to dismantling all Hold Points have been released, all method statements have been communicated and understood, that the permanent works will not be impacted and that any changes from the design have been communicated to the designer for agreement.

17 PROGRAM MANAGEMENT

17.1 Construction Program Requirements

Lendlease has standardised processes and procedures to ensure that project planning and scheduling is consistent, transparent, efficient, and integrated across the delivery cycle of a project. This provides a greater level of certainty in delivery through robust benchmarked baseline programs and ensures that project controls are accurate and up-to-date.

The basis of the project planning will be:

- Contract documents, including contract conditions, drawings, specifications
- Pre-contract program, planning analysis and planning report
- Pre-contract Construction Plan including general construction staging and sequencing, including the Traffic Management Plan, work method statements, materials management plans, access dates, resources, quantities and productivity rates.

The project team will have regular planning meetings to track, plan and disseminate information regarding the upcoming or ongoing activities. After implementation of the program, a structured cycle of monitoring and review will be maintained.

All major activities will have short term programs on a rolling 2-3-week basis showing daily activities, updated and extended weekly by Engineers and Supervisors managing the activities. These programs will be agreed with Project and Construction Managers and reviewed by planners on a weekly basis.

A Procurement Schedule will also be prepared which will include the program of activities to engage subcontractors and suppliers such as preparations of tender documents, assessment of tenders, internal and external approvals, and contract execution. It includes the realistic durations those subcontractors and suppliers provide their services in time to meet the Target Program required on site dates.

Progress updates will be done once per month for the official program submission to the Client. These updates will be done by the Project Planner and respective project team members in charge of the works-activities. Deliverables from the progress updates will include monthly progress reports, statused works programs, milestone status reports, resource utilisation reports and 4-week look-ahead programs.

Changes to the Contract Program will be recorded by the Project Team. It will capture all contractual changes as well as changes to construction staging sequencing, construction methods, or changes caused by the delays that have a negative impact on the project completion date. Once approved the Contract Program shall be revised to address the changes and officially submitted to the Client.

Reporting to the Client will be in accordance with the Sydney Metro Programming Protocol or Lendlease (Victoria Cross) Pty Ltd as applicable.

18 STAKEHOLDER MANAGEMENT AND COMMUNICATION

The management of stakeholders, including authorities and interface contractors, is addressed in the following document

- Stakeholder Engagement Action Plan / Community Communications Strategy (SMCSWSVI-LLC-SVC-CL-PLN-001001)

19 INCIDENT REPORTING AND CRISIS MANAGEMENT

The Stakeholder Engagement Action Plan / Community Communications Strategy covers Incident Reporting and Crisis Management, including a separate Incident and Crisis Management Plan (ICMP).

20 METRO IMPACTS AND INTERFACES

Lendlease has considered the potential Station Metro Impacts with respect to carrying out construction of the OSD works post Station opening, with the following items identified as key considerations along with the associated control measures. Prior to Station opening, it is essential that the key personnel from the Station Operations Team (SOT) are provided with the Lendlease (LL) site contacts (and vice versa), and that the below items are discussed in detail.

Potential Metro Impact	Control measure
Site evacuation (inclusive of both drills and real evacs)	6 monthly evac drills are required under LL EHS systems. LL to notify SOT within an agreed notice period prior to any evacs (min 2 weeks), and plan outside of peak periods. For non-drills, communication between nominated LL and SOT personnel as soon as practical to identify whether Station evac is required. OSD evac route and location must not impact station entry and exits
Attendance by Emergency Services	Communication between nominated LL and SOT personnel as soon as practical to allow management of public (if required). Emergency bays to be predetermined to not impact station entry and exits (unless emergency services deem required). Note that if required, emergency services will take control of the precinct and direct both LL and the Station as required
Workforce access to the OSD construction face	Worker entrance to be located away from station entrance (ie corner Miller and Berry St)
Site deliveries (included concrete pouring, façade and large plant deliveries post station opening)	Workszones for Miller and Berry St align with the tower footprint and as such do not affect station access. Traffic management will be in place as per approved CTMP
Construction activities impacting station operation (ie vibration, noise)	It is not envisaged that there will be any impacts from noise or vibration post station opening. In Q4 2023, the tower construction will be well into the mid and high rise and adequately separated from the station.
Completion of ground plane works	Ground plane works will align with the tower footprint and as such do not affect station access. Traffic and pedestrian management will be in place to manage footpath closures. SOT to be notified prior to commence of any works that may affect or adjust short term pedestrian routes

Major incident eg Fire/Flooding	Communication between nominated LL and SOT personnel as soon as practical to allow management of public, station evac (if required). Note that if required, emergency services will take control of the precinct and direct both LL and the Station as required
Crane/hoarding removal/exclusion zones	Approvals to be obtained for road closures/hoarding via appropriate authorities (RMS, North Sydney council). LL to notify SOT prior to undertaking works (minimum 2 weeks or as agreed). Note that crane and hoarding removal is predominantly at night or on weekends, hence impact should be minimal and is a short term event
Final connection of fire system to Station systems, including Testing and Commissioning	Detailed commissioning plan and program to be agreed and in place prior to commencement
Maintaining worker segregation between operation Station and OSD eg fire stair access	Worker behaviour and OSD delineation to be addressed in site induction. Where required and possible, additional fencing or similar to be installed to prevent unauthorised access

Note that any design related Metro Impacts are addressed in the Design Management plan, and as such are not considered in this Plan.